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BEFORE THE ARIZONA CORPORATION CO[illegible]

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AZ CORP COMMISSION
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Arizona Corporation Commission
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COMMISSIONER
BOB STUMP
COMMISSIONER

IN THE MATTER OF THE APPLICATION OF BELLA VISTA WATER CO., INC., AN ARIZONA CORPORATION, FOR A DETERMINATION OF THE FAIR VALUE OF ITS UTILITY PLANTS AND PROPERTY AND FOR INCREASES IN ITS WATER RATES AND CHARGES FOR UTILITY SERVICE BASED THEREON.	Docket No. W-02465A-09-0411
IN THE MATTER OF THE APPLICATION OF NORTHERN SUNRISE WATER COMPANY, INC., AN ARIZONA CORPORATION, FOR A DETERMINATION OF THE FAIR VALUE OF ITS UTILITY PLANTS AND PROPERTY AND FOR INCREASES IN ITS WATER RATES AND CHARGES FOR UTILITY SERVICE BASED THEREON.	Docket No. W-20453A-09-0412
IN THE MATTER OF THE APPLICATION OF SOUTHERN SUNRISE WATER COMPANY., INC., AN ARIZONA CORPORATION, FOR A DETERMINATION OF THE FAIR VALUE OF ITS UTILITY PLANTS AND PROPERTY AND FOR INCREASES IN ITS WATER RATES AND CHARGES FOR UTILITY SERVICE BASED THEREON.	Docket No. W-20454A-09-0413
IN THE MATTER OF THE JOINT APPLICATION OF BELLA VISTA WATER CO., INC., NORTHERN SUNRISE WATER COMPANY, INC., AND SOUTHERN SUNRISE WATER COMPANY., INC., FOR APPROVAL OF AUTHORITY TO CONSOLIDATE OPERATIONS, AND FOR	Docket No. W-02465A-09-0414 Docket No. W-20453A-09-0414 Docket No. W-20454A-09-0414

THE TRANSFER OF UTILITY ASSETS TO BELLA VISTA WATER CO., INC, PURSUANT TO ARIZONA REVISED STATUTES 40-285.

NOTICE OF FILING

The Residential Utility Consumer Office ("RUCO") hereby provides notice of filing the Supplemental Direct Testimony of William A. Rigsby (Cost of Capital), the Supplemental Direct Testimony of Jodi A. Jerich (Rate Consolidation), and the Supplemental Direct Testimony and Rate Design of Rodney L. Moore in the above-referenced matter.

RESPECTFULLY SUBMITTED this 23rd day of April, 2010.

Michelle L. Wood
Counsel

AN ORIGINAL AND THIRTEEN COPIES
of the foregoing filed this 23rd day
of April, 2010 with:

Docket Control
Arizona Corporation Commission
1200 West Washington
Phoenix, Arizona 85007

COPIES of the foregoing hand delivered/
mailed this 23rd day of April, 2010 to:

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Arizona Corporation Commission

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By Ernestine Gamble
Ernestine Gamble

BELLA VISTA WATER COMPANY, INC.

DOCKET NO. W-02465A-09-0411 ET AL.

SUPPLEMENTAL DIRECT TESTIMONY
(COST OF CAPITAL)

OF

WILLIAM A. RIGSBY, CRRA

ON BEHALF OF

THE

RESIDENTIAL UTILITY CONSUMER OFFICE

APRIL 23, 2010

TABLE OF CONTENTS

INTRODUCTION

Q. Please state your name, occupation, and business address.

A. My Name is William A. Rigsby. I am a Public Utilities Analyst V employed by the Residential Utility Consumer Office ("RUCO") located at 1110 W. Washington, Suite 220, Phoenix, Arizona 85007.

Q. Please state the purpose of your supplemental direct testimony.

A. The purpose of my supplemental direct testimony is to present RUCO's recommended weighted average costs of capital for BVWC, NSWC and SSWC on a stand-alone basis.

Q. Have you filed any prior testimony in this case on behalf of RUCO?

A. Yes, on April 12, 2010, I filed direct testimony with the Commission on RUCO's cost of capital recommendations for BVWC on a consolidated basis.

Q. Are you recommending a separate cost of common equity for each of the three Liberty Water systems?

A. No. I am recommending the same 9.00 percent cost of common equity that I recommended on a consolidated basis. The analysis which produced my recommended 9.00 percent cost of common equity was explained in my direct testimony filed on April 12, 2010 and so there is no need to repeat it in this supplemental direct testimony.

Q. Will RUCO be filing supplemental direct testimony on the rate base and operating income issues as they relate to the three Liberty Water systems on a stand-alone basis?

A. Yes. RUCO analyst Rodney L. Moore will file supplemental direct testimony on the rate base and operating income issues as they relate to the three Liberty Water systems on a stand-alone basis.

Q. Is RUCO filing testimony on rate consolidation and rate design in this proceeding?

A. Yes. RUCO Director Jodi A. Jerich, Esq. and RUCO analyst Rodney L. Moore will provide direct testimony on RUCO's rate consolidation policy and RUCO's recommended rate designs respectively.

Q. How is your supplemental direct testimony organized?

A. My supplemental direct testimony contains five parts: the introduction that I have just presented; a summary of RUCO's recommendations on a stand-alone basis that I am about to present; a section on RUCO's stand-alone capital structure recommendations; a section on RUCO's stand-alone cost of debt recommendations; and, a section on the weighted costs of capital for each of the three Liberty Water systems.

SUMMARY OF RECOMMENDATIONS

Q. What are RUCO's capital structure, cost of debt and weighted average cost of capital recommendations for BVWC, NSWC and SSWC on a stand-alone basis?

A. RUCO is recommending the following capital structure, cost of debt and weighted average cost of capital recommendations for BVWC, NSWC and SSWC on a stand-alone basis:

Bella Vista Water Company

BVWC Capital Structure – For BVWC, I am recommending that the Commission adopt BVWC's proposed capital structure, which is comprised of 27.76 percent long-term debt and 72.24 percent common equity.

BVWC Cost of Debt – For BVWC, I am recommending that the Commission adopt the Company-proposed cost of debt of 6.27 percent, which is the average weighted cost of debt of BVWC's various loans.

BVWC Weighted Average Cost of Capital – Based on the results of my recommended capital structure, I am recommending an 8.24 percent cost of capital for BVWC, which is the weighted cost of my recommended 6.28 percent cost of long-term debt and my recommended 9.00 percent cost of common equity. My recommended weighted average cost of capital for

BVWC is 253 basis points lower than the 10.77 percent weighted average cost of capital being proposed by the Company.

Northern and Southern Sunrise Water Companies

NSWC and SSWC Capital Structures – I am recommending that NSWC's and SSWC's proposed capital structures, which are comprised of 100 percent common equity be rejected by the ACC and that my recommended hypothetical capital structures, which are comprised of 60 percent common equity and 40 percent debt, be adopted by the Commission.

NSWC and SSWC Costs of Debt – For both NSWC and SSWC, I am recommending that the Commission adopt a hypothetical cost of debt of 6.26 percent, which is the average weighted cost of debt of eight publicly traded water companies that are followed by securities analysts with The Value Line Investment Survey.

NSWC and SSWC Weighted Average Costs of Capital – Based on the results of my recommended hypothetical capital structures, I am recommending a 7.90 percent cost of capital for both NSWC and SSWC, which is the weighted cost of my recommended costs of common equity and hypothetical debt. My recommended 7.90 percent weighted average costs of capital for NSWC and SSWC are 490 basis points lower than the

12.80 percent weighted average costs of capital being proposed by NSWC and SSWC.

CAPITAL STRUCTURE

Bella Vista Water Company

Q. Please describe BVWC's proposed capital structure.

A. BVWC's proposed capital structure is comprised of 72.24 percent common equity and 27.76 percent long-term debt.

Q. How does BVWC's capital structure compare with the capital structures of the water and gas utilities that comprise your samples?

A. BVWC's capital structure, comprised of 72.24 percent equity capital is clearly heavier in equity than the capital structures of the water and gas utilities in my samples and would be perceived by investors as having lower risk overall. The lower level of debt in the Company's capital structure would indicate lower financial risk and would justify a downward adjustment to the cost of common equity derived from my sample companies that had average capital structures of approximately 49.00 percent common equity and 51.00 percent debt in the case of water, and approximately 54.00 percent equity and 46.00 percent debt in the case of natural gas.

Q. Why have you decided not to recommend a hypothetical capital structure for BVWC given the fact that BVWC's capital structure contains less debt than the utilities in your sample?

A. As I explained in my direct testimony filed on April 12, 2010, in recent years I have attempted, for the most part, to recommend hypothetical capital structures for utilities that have extreme levels of debt or equity in their capital structures. In the case of Liberty Water systems I have recommended hypothetical capital structures in cases where imprudent capital structures comprised of 100 percent equity were being proposed. While a higher level of lower cost debt would be desirable for BVWC, I believe that the fact that my recommended capital structure, which is comprised of 21.08 percent long-term debt, eliminates the need for a hypothetical capital structure in this case.

Q. Did you make any direct downward adjustment to your recommended cost of common equity that takes into consideration the higher level of equity contained in the Company-proposed capital structure?

A. No. While a good argument could be made for such an adjustment, I believe my recommended 9.00 percent cost of equity would cover any investor concerns regarding unique business risk associated with BVWC.

Northern and Southern Sunrise Water Companies

Q. Have you reviewed both NSWC's and SSWC's testimony regarding their proposed capital structures?

A. Yes, I have.

Q. Please describe the capital structures being proposed by NSWC and SSWC.

A. Both NSWC and SSWC are proposing capital structures comprised of 100 percent common equity.

Q. Are the capital structures being proposed by NSWC and SSWC in line with industry averages?

A. No. The capital structures being proposed by NSWC and SSWC are comprised entirely of equity as opposed to the capital structures of the other water companies included in my cost of capital analysis (Schedule WAR-9, direct testimony filed on April 12, 2010). The capital structures for those utilities averaged 51.4 percent for debt and 48.6 percent for equity.

Q. In terms of risk, how do the capital structures proposed by NSWC and SSWC compare to the water utilities in your sample?

A. The water utilities in my sample, from which I derived an estimated cost of common equity of 9.00 percent versus the Company-proposed 12.80 percent, would be considered as having a higher level of financial risk (i.e.

the risk associated with debt repayment) because of their higher levels of debt. The additional financial risk due to debt leverage is embedded in the cost of equities derived for those companies through the DCF analysis. Thus, the cost of equity derived in my DCF analysis is applicable to companies that are more leveraged and, theoretically speaking, riskier than utilities such as NSWC and SSWC, which have no debt in their capital structures. In the case of a publicly traded company, like those included in my proxy, a company with NSWC's and SSWC's levels of equity would be perceived as having extremely low to no financial risk and would therefore also have a lower expected return on common equity. Because of this, I believe a hypothetical capital structure that produces a lower weighted cost of common equity is warranted for both NSWC and SSWC.

Q. What capital structure are you recommending for both NSWC and SSWC?

A. I am recommending a hypothetical capital structure comprised of 60 percent equity and 40 percent debt for both NSWC and SSWC.

Q. Has the Commission addressed the issue of capital structures comprised of 100 percent common equity in prior cases?

A. Yes. This issue was addressed in a prior Gold Canyon Sewer Company ("Gold Canyon") case in which the Commission adopted both a hypothetical capital structure and a hypothetical cost of debt in order to remedy a capital structure comprised of 100 percent common equity (Gold Canyon is also owned by Liberty Water). In Decision No. 70662, dated December 23, 2008, the Commission stated the following: We agree with RUCO's hypothetical structure of 40 percent debt and 60 percent equity. A capital structure comprised of 100 percent equity would be viewed as having little to no financial risk. The proposed capital structure adopted by the Commission will bring the Company's capital structure and weighted cost of capital in line with the industry average and it will result in lower rates for the customers of the system. We therefore adopt a hypothetical capital structure of 40 percent debt and 60 percent equity.

Q. Why are you recommending a higher 60 percent level of equity for both NSWC and SSWC in your hypothetical capital structure than the average 49.6 percent level of equity of your sample companies?

A. My hypothetical capital structure takes into account any perceived additional business risk that both NSWC and SSWC may face and for that reason I believe a higher level of equity is reasonable.

COST OF DEBT

Bella Vista Water Company

Q. Have you reviewed the various debt instruments that comprise the long-term debt in BVWC's capital structure?

A. Yes.

Q. What cost of long-term debt are you recommending for BVWC?

A. I am recommending that the Commission adopt the 6.27 percent cost of debt being proposed by BVWC, which is the average of the weighted costs of BVWC's various loans agreements.

Northern and Southern Sunrise Water Companies

Q. Are you recommending a hypothetical cost of debt for both NSWC and SSWC?

A. Yes.

Q. What hypothetical cost of debt are you recommending for both NSWC and SSWC?

A. I am recommending a hypothetical cost of debt of 6.26 percent for both NSWC and SSWC.

Q. How did you determine your hypothetical cost of debt for NSWC and SSWC?

A. As can be viewed on page 2 of Schedule WAR-1 for both NSWC and SSWC, my recommended 6.26 percent hypothetical cost of debt is an average of the weighted costs of long-term debt of seven publicly traded water utilities followed by Value Line analysts. Three of these water utilities are the same ones that I described in my direct testimony filed on April 11, 2010, and were used in my DCF and CAPM analyses. Three of the remaining four (Connecticut Water Service, Inc., Middlesex Water 2 Company, and SJW Corp.) are ones that I noted earlier in my testimony that were included in the Company's proxy. The seventh water utility, York Water Company, is also followed in Value Line's Small & Mid-Cap Edition.

Q. Is your recommended hypothetical cost of debt for NSWC and SSWC similar to BVWC's cost of debt?

A. Yes. The 6.26 percent hypothetical cost of debt that I am recommending for NSWC and SSWC is only one basis point lower than BVWC's 6.27 percent cost of debt.

Q. Why do you believe your recommended 6.26 percent hypothetical cost of debt for NSWC and SSWC is reasonable given the recent turbulence in the financial markets?

A. My recommended 6.26 percent hypothetical cost of debt is falls within the current yields of A-rated and Baa/BBB-rated utility bonds that was reported in the April 23, 2010 Value Line Selection and Opinion publication (Attachment A). In addition to this, Arizona Water Company, the second largest water provider in the state, privately placed $35 million in bonds at a stated rate of 6.67 percent on the first day of September 2008 during a period when the yield on Baa/BBB-rated utility bonds averaged 6.63 percent. Given Liberty Water's parent company's ability to access capital, it is reasonable to believe that Algonquin Power & Utilities Corp. can obtain debt at a cost in the A-rated to Baa/BBB-rated range of 5.89 percent to 6.35 percent stated above, I believe, for the reasons stated above, my recommended 6.26 percent hypothetical cost of debt is reasonable and there is no need for additional basis point adjustment.

Q. How does your recommended 6.26 percent hypothetical cost of debt for NSWC and SSWC compare to the weighted costs of debt of other Arizona water providers?

A. In its most recent rate case before the Commission, Arizona-American Water Company, the largest investor owned water utility in the state, had a weighted cost of debt of approximately 5.50 percent. Arizona Water Company's weighted cost of debt as of the last quarter of 2008 was 6.83 percent. The midpoint of these two figures is 6.17 percent which is 9 basis points lower than my recommended 6.26 percent hypothetical cost of debt.

WEIGHTED AVERAGE COST OF CAPITAL

Bella Vista Water Company

Q. What weighted average cost of capital are you recommending for BVWC?

A. I am recommending an 8.24 percent weighted average cost of capital for BVWC.

Q. How does the Company's proposed weighted cost of capital compare with your recommendation?

A. BVWC has proposed a weighted average cost of capital of 10.77 percent which is 253 basis points higher than the 8.24 percent weighted cost that I am recommending. My cost of capital recommendation for BVWC is consistent with the one that I made for Liberty Water's Litchfield Park Service Company in a case that is now pending before the Commission.

Northern and Southern Sunrise Water Companies

Q. What weighted average cost of capital are you recommending for both NSWC and SSWC?

A. I am recommending a 7.90 percent weighted average cost of capital for both NSWC and SSWC.

Q. How does the weighted average cost of capital being proposed by NSWC and SSWC compare with your recommendation?

A. Both NSWC and SSWC have proposed weighted average costs of capital of 12.80 percent which reflects the total absence of debt financing in their proposed capital structures. The proposed weighted average cost of capital of 12.80 percent for both NSWC and SSWC is 490 basis points higher than the 7.90 percent weighted average cost of capital that I am recommending. I would also point out that my cost of capital recommendations for NSWC and SSWC are consistent with the recommendations that I made in Liberty Water's Gold Canyon, Black Mountain Sewer Corporation, and Rio Rico Utilities, Inc. rate cases.

Q. Does your silence on any of the issues, matters or findings addressed in the rebuttal testimony of any of the witnesses for BVWC, NSWC or SSWC constitute your acceptance of their positions on such issues, matters or findings?

A. No, it does not.

Q. Does this conclude your supplemental direct testimony on the stand-alone cost of capital issues for BVWC, NSWC and SSWC?

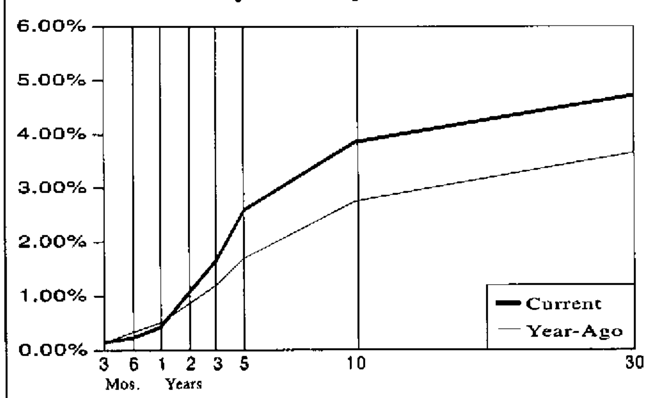
A. Yes, it does.

ATTACHMENT A

Selected Yields

	Recent (4/14/10)	3 Months Ago (1/13/10)	Year Ago (4/15/09)
TAXABLE			
Market Rates			
Discount Rate	0.75	0.50	0.50
Federal Funds	0.00-0.25	0.00-0.25	0.00-0.25
Prime Rate	3.25	3.25	3.25
30-day CP (A1/P1)	0.20	0.16	0.38
3-month LIBOR	0.30	0.25	1.11
Bank CDs			
6-month	0.25	0.26	0.81
1-year	0.43	0.47	1.02
5-year	1.99	2.02	2.01
U.S. Treasury Securities			
3-month	0.15	0.05	0.14
6-month	0.23	0.14	0.33
1-year	0.43	0.35	0.51
5-year	2.60	2.54	1.70
10-year	3.86	3.79	2.76
10-year (inflation-protected)	1.51	1.31	1.43
30-year	4.73	4.71	3.66
30-year Zero	4.99	4.95	3.66
Mortgage-Backed Securities			
GNMA 6.5%	2.52	3.63	3.39
FHLMC 6.5% (Gold)	1.83	2.41	2.67
FNMA 6.5%	2.14	2.54	2.62
FNMA ARM	2.76	3.24	3.15
Corporate Bonds			
Financial (10-year) A	5.22	5.65	7.61
Industrial (25/30-year) A	5.76	5.87	6.25
Utility (25/30-year) A	5.89	5.89	6.17
Utility (25/30-year) Baa/BBB	6.35	6.49	7.59
Foreign Bonds (10-Year)			
Canada	3.71	3.60	2.94
Germany	3.14	3.30	3.14
Japan	1.38	1.34	1.44
United Kingdom	4.03	3.96	3.26
Preferred Stocks			
Utility A	5.99	5.57	6.36
Financial A	6.60	5.83	7.55
Financial Adjustable A	5.49	5.49	5.49
TAX-EXEMPT			
Bond Buyer Indexes			
20-Bond Index (GOs)	4.45	4.31	4.92
25-Bond Index (Revs)	4.96	4.96	5.74
General Obligation Bonds (GOs)			
1-year Aaa	0.43	0.31	0.43
1-year A	1.18	1.27	0.53
5-year Aaa	1.87	1.68	1.91
5-year A	2.85	2.77	2.13
10-year Aaa	3.30	3.28	3.09
10-year A	4.27	4.20	3.62
25/30-year Aaa	4.45	4.47	4.71
25/30-year A	5.51	5.41	5.75
Revenue Bonds (Revs) (25/30-Year)			
Education AA	4.81	4.83	5.70
Electric AA	4.79	4.74	5.80
Housing AA	5.75	5.70	6.10
Hospital AA	5.15	5.04	6.15
Toll Road Aaa	4.78	4.80	5.85

Treasury Security Yield Curve



Federal Reserve Data

BANK RESERVES

(Two-Week Period; in Millions, Not Seasonally Adjusted)

	Recent Levels			Average Levels Over the Last...		
	4/7/10	3/24/10	Change	12 Wks.	26 Wks.	52 Wks.
Excess Reserves	1093777	1103634	-9857	1105760	1072867	937535
Borrowed Reserves	84524	88326	-3802	113453	168251	295198
Net Free/Borrowed Reserves	1009253	1015308	-6055	992307	904616	642338

MONEY SUPPLY

(One-Week Period; in Billions, Seasonally Adjusted)

	Recent Levels			Growth Rates Over the Last...		
	3/29/10	3/22/10	Change	3 Mos.	6 Mos.	12 Mos.
M1 (Currency+demand deposits)	1719.7	1718.9	0.8	5.7%	7.6%	10.4%
M2 (M1+savings+small time deposits)	8490.8	8502.5	-11.7	-2.0%	0.3%	1.5%

BELLA VISTA WATER COMPANY, INC. (STAND-ALONE)
DOCKET NO. W-02465A-09-0411 ET AL.
TABLE OF CONTENTS TO SCHEDULES WAR

SCHEDULE #

WEIGHTED AVERAGE COST OF CAPITAL - CONSOLIDATED

LINE NO.	DESCRIPTION	(A) DOLLAR AMOUNT	(B) RUCO ADJUSTMENT	(C) RUCO ADJUSTED	(D) CAPITAL RATIO	(E) COST RATE	WEIGHTED COST RATE
1	Long-Term Debt	$ 1,697,323	$ -	$ 1,697,323	27.76%	6.27%	1.74%
2	Common Equity	4,416,118	-	4,416,118	72.24%	9.00%	6.50%
3	Total Capitalization	$ 6,113,441	$ -	$ 6,113,441	100.00%		
4	**WEIGHTED AVERAGE COST OF CAPITAL**						**8.24%**

REFERENCES:
COLUMN (A): COMPANY, SCHEDULE D
COLUMN (B): TESTIMONY, WAR
COLUMN (C): COLUMN (A) + COLUMN (B)
COLUMN (D): COLUMN (C) LINES 1 & 2 / LINE 4
COLUMN (E): LINE 1; SCHEDULE WAR-1, PAGE 2, LINE 2; TESTIMONY WAR
COLUMN (F): COLUMN (D) x COLUMN (E), LINE 4; LINE 1 + LINE 2

WEIGHTED COST OF LONG-TERM DEBT

		END OF TEST YEAR				END OF PROJECTED YEAR			
	(A)	(B)	(C)	(D)	(E)	(F)	(G)	(H)	(I)
LINE NO.	DESCRIPTION	AMOUNT OUTSTANDING	ANNUAL INTEREST	INTEREST RATE	WEIGHTED COST	AMOUNT OUTSTANDING	ANNUAL INTEREST	INTEREST RATE	WEIGHTED COST
1	WIFA #1	$ 108,754	$ 6,634	6.10%	0.391%	$ 99,968	$ 6,098	6.10%	0.385%
2	WIFA #2	1,545,436	96,744	6.26%	5.700%	1,455,280	91,101	6.26%	5.751%
3	K-MART	6,140	526	8.57%	0.031%	484	41	8.47%	0.003%
4	BVR/RC-3	13,849	1,011	7.30%	0.060%	9,854	719	7.30%	0.045%
5	BVR/RC-4	16,109	1,113	6.91%	0.066%	12,802	885	6.91%	0.056%
6	BVR-CCCII	7,035	504	7.16%	0.030%	5,645	404	7.16%	0.026%
7	TOTALS	$ 1,697,323	$ 106,532		6.28%	$ 1,584,033	$ 99,248		
8	**WEIGHTED COST OF DEBT**								6.27%

REFERENCES:
COLUMN (A) LINES 1 THRU 6: COMPANY APPLICATION SCHEDULE D-2
COLUMN (B) LINES 1 THRU 6: COMPANY APPLICATION SCHEDULE D-2
COLUMN (C) LINES 1 THRU 6: COMPANY APPLICATION SCHEDULE D-2
COLUMN (D) LINES 1 THRU 6: COLUMN (C) / COLUMN (B)
COLUMN (E) LINES 1 THRU 6 : COLUMN (D) LINES 1 THRU 6 / LINE 7
COLUMN (F) LINES 1 THRU 6: COMPANY APPLICATION SCHEDULE D-2
COLUMN (G) LINES 1 THRU 6: COMPANY APPLICATION SCHEDULE D-2
COLUMN (H) LINES 1 THRU 6: COLUMN (C) / COLUMN (B)
COLUMN (I) LINES 1 THRU 6 : COLUMN (H) LINES 1 THRU 6 / LINE 7, LINE 8: SUM OF LINES 1 THRU 6

BELLA VISTA WATER COMPANY, INC. (STAND-ALONE)
TEST YEAR ENDED MARCH 31, 2009
COST OF CAPITAL SUMMARY

COST OF COMMON EQUITY CALCULATION

LINE NO.			
1	**DCF METHODOLOGY**		
2	DCF - WATER COMPANY SINGLE-STAGE CONSTANT GROWTH MODEL ESTIMATE	9.93%	SCHEDULE WAR-2, COLUMN (C), LINE 5
3	DCF - NATURAL GAS LDC SINGLE-STAGE CONSTANT GROWTH MODEL ESTIMATE	9.90%	SCHEDULE WAR-2, COLUMN (C), LINE 13
4	**AVERAGE OF DCF ESTIMATES**	**9.92%**	(LINE 2 + LINE 3) ÷ 2
5	**CAPM METHODOLOGY**		
6	CAPM - WATER COMPANY GEOMETRIC MEAN ESTIMATE	5.44%	SCHEDULE WAR-7 PAGE 1, COLUMN (B), LINE 5
7	CAPM - NATURAL GAS LDC GEOMETRIC MEAN ESTIMATE	5.13%	SCHEDULE WAR-7 PAGE 1, COLUMN (B), LINE 13
8	CAPM - WATER COMPANY ARITHMETIC MEAN ESTIMATE	6.83%	SCHEDULE WAR-7 PAGE 2, COLUMN (B), LINE 5
9	CAPM - NATURAL GAS LDC ARITHMETIC MEAN ESTIMATE	6.39%	SCHEDULE WAR-7 PAGE 2, COLUMN (B), LINE 13
10	**AVERAGE OF CAPM ESTIMATES**	**5.95%**	(SUM OF LINES 6 THRU 9) ÷ 4
11	**AVERAGE OF DCF AND CAPM ESTIMATES**	**7.93%**	(SUM OF LINES 4 AND 10) ÷ 2
12	**FINAL COST OF COMMON EQUITY ESTIMATE**	**9.00%**	TESTIMONY WAR

NORTHERN SUNRISE WATER COMPANY, INC. (STAND-ALONE)
DOCKET NO. W-02465A-09-0411 ET AL.
TABLE OF CONTENTS TO SCHEDULES WAR

SCHEDULE #

WEIGHTED AVERAGE COST OF CAPITAL

LINE NO.	DESCRIPTION	(A) CAPITAL RATIO	(B) COST RATE	(C) WEIGHTED COST RATE
1	Long-Term Debt	40.00%	6.26%	2.50%
2	Common Equity	60.00%	9.00%	5.40%
3	Total Capitalization	100.00%		
4	**WEIGHTED AVERAGE COST OF CAPITAL**			7.90%

REFERENCES:
COLUMN (A): TESTIMONY, WAR
COLUMN (B): TESTIMONY, WAR - SCHEDULE WAR-1, PAGE 2
COLUMN (C): COLUMN (A) x COLUMN (B)

NORTHERN SUNRISE WATER COMPANY, INC. (STAND-ALONE)
TEST YEAR ENDED MARCH 31, 2009
COST OF CAPITAL SUMMARY

SAMPLE COMPANIES APPROXIMATE WEIGHTED COSTS OF DEBT

LINE NO.	STOCK SYMBOL	COMPANY	WEIGHTED COSTS		
1	AWR	AMERICAN STATES WATER CO.	7.13%		
2	CWT	CALIFORNIA WATER SERVICE GROUP	6.43%		
3	WTR	AQUA AMERICA, INC.	6.03%		
4	CTWS	CONNECTICUT WATER SERVICES, INC.	4.95%		
5	MSEX	MIDDLESEX WATER COMPANY	5.52%		
6	SJW	SJW CORP.	6.81%		
7	YORW	YORK WATER COMPANY	6.92%		
8	AVERAGE OF APPROXIMATE WEIGHTED COSTS OF DEBT (a)			6.26%	AVERAGE OF LINES 1 THRU 8
9	**RUCO RECOMMENDED COST OF DEBT**			$\boxed{6.26\%}$	

REFERENCE:
MOST RECENT SEC 10-K FILINGS OR ANNUAL REPORTS

NOTE:
(a) COSTS ARE APPROXIMATE AND DO NOT INCLUDE THE FOLLOWING:
DEBT ISSUES THAT DID NOT HAVE STATED YIELDS; AND
DEBT ISSUES WITH ZERO RATES OF INTEREST.
IN THE CASE OF ISSUES WITH VARIABLE RATES OF INTEREST THE HIGH END OF THE VARIABLE RANGE WAS USED.

NORTHERN SUNRISE WATER COMPANY, INC. (STAND-ALONE)
TEST YEAR ENDED MARCH 31, 2009
COST OF CAPITAL SUMMARY

COST OF COMMON EQUITY CALCULATION

LINE NO.			
1	**DCF METHODOLOGY**		
2	DCF - WATER COMPANY SINGLE-STAGE CONSTANT GROWTH MODEL ESTIMATE	9.93%	SCHEDULE WAR-2, COLUMN (C), LINE 5
3	DCF - NATURAL GAS LDC SINGLE-STAGE CONSTANT GROWTH MODEL ESTIMATE	9.90%	SCHEDULE WAR-2, COLUMN (C), LINE 13
4	**AVERAGE OF DCF ESTIMATES**	**9.92%**	(LINE 2 + LINE 3) ÷ 2
5	**CAPM METHODOLOGY**		
6	CAPM - WATER COMPANY GEOMETRIC MEAN ESTIMATE	5.44%	SCHEDULE WAR-7 PAGE 1, COLUMN (B), LINE 5
7	CAPM - NATURAL GAS LDC GEOMETRIC MEAN ESTIMATE	5.13%	SCHEDULE WAR-7 PAGE 1, COLUMN (B), LINE 13
8	CAPM - WATER COMPANY ARITHMETIC MEAN ESTIMATE	6.83%	SCHEDULE WAR-7 PAGE 2, COLUMN (B), LINE 5
9	CAPM - NATURAL GAS LDC ARITHMETIC MEAN ESTIMATE	6.39%	SCHEDULE WAR-7 PAGE 2, COLUMN (B), LINE 13
10	**AVERAGE OF CAPM ESTIMATES**	**5.95%**	(SUM OF LINES 6 THRU 9) ÷ 4
11	**AVERAGE OF DCF AND CAPM ESTIMATES**	**7.93%**	(SUM OF LINES 4 AND 10) ÷ 2
12	**FINAL COST OF COMMON EQUITY ESTIMATE**	$\boxed{9.00\%}$	TESTIMONY WAR

SOUTHERN SUNRISE WATER COMPANY, INC. (STAND-ALONE)
DOCKET NO. W-02465A-09-0411 ET AL.
TABLE OF CONTENTS TO SCHEDULES WAR

SCHEDULE #

SOUTHERN SUNRISE WATER COMPANY, INC. (STAND-ALONE)
TEST YEAR ENDED MARCH 31, 2009
COST OF CAPITAL SUMMARY

WEIGHTED AVERAGE COST OF CAPITAL

LINE NO.	DESCRIPTION	(A) CAPITAL RATIO	(B) COST RATE	(C) WEIGHTED COST RATE
1	Long-Term Debt	40.00%	6.26%	2.50%
2	Common Equity	60.00%	9.00%	5.40%
3	Total Capitalization	100.00%		
4	**WEIGHTED AVERAGE COST OF CAPITAL**			7.90%

REFERENCES:
COLUMN (A): TESTIMONY, WAR
COLUMN (B): TESTIMONY, WAR - SCHEDULE WAR-1, PAGE 2
COLUMN (C): COLUMN (A) x COLUMN (B)

SOUTHERN SUNRISE WATER COMPANY, INC. (STAND-ALONE)
TEST YEAR ENDED MARCH 31, 2009
COST OF CAPITAL SUMMARY

SAMPLE COMPANIES APPROXIMATE WEIGHTED COSTS OF DEBT

LINE NO.	STOCK SYMBOL	COMPANY	WEIGHTED COSTS		
1	AWR	AMERICAN STATES WATER CO.	7.13%		
2	CWT	CALIFORNIA WATER SERVICE GROUP	6.43%		
3	WTR	AQUA AMERICA, INC.	6.03%		
4	CTWS	CONNECTICUT WATER SERVICES, INC.	4.95%		
5	MSEX	MIDDLESEX WATER COMPANY	5.52%		
6	SJW	SJW CORP.	6.81%		
7	YORW	YORK WATER COMPANY	6.92%		
8	AVERAGE OF APPROXIMATE WEIGHTED COSTS OF DEBT (a)			6.26%	AVERAGE OF LINES 1 THRU 8
9	**RUCO RECOMMENDED COST OF DEBT**			6.26%	

REFERENCE:
MOST RECENT SEC 10-K FILINGS OR ANNUAL REPORTS

NOTE:
(a) COSTS ARE APPROXIMATE AND DO NOT INCLUDE THE FOLLOWING:
DEBT ISSUES THAT DID NOT HAVE STATED YIELDS; AND
DEBT ISSUES WITH ZERO RATES OF INTEREST.
IN THE CASE OF ISSUES WITH VARIABLE RATES OF INTEREST THE HIGH END OF THE VARIABLE RANGE WAS USED.

COST OF COMMON EQUITY CALCULATION

LINE NO.			
1	**DCF METHODOLOGY**		
2	DCF - WATER COMPANY SINGLE-STAGE CONSTANT GROWTH MODEL ESTIMATE	9.93%	SCHEDULE WAR-2, COLUMN (C), LINE 5
3	DCF - NATURAL GAS LDC SINGLE-STAGE CONSTANT GROWTH MODEL ESTIMATE	9.90%	SCHEDULE WAR-2, COLUMN (C), LINE 13
4	**AVERAGE OF DCF ESTIMATES**	**9.92%**	(LINE 2 + LINE 3) ÷ 2
5	**CAPM METHODOLOGY**		
6	CAPM - WATER COMPANY GEOMETRIC MEAN ESTIMATE	5.44%	SCHEDULE WAR-7 PAGE 1, COLUMN (B), LINE 5
7	CAPM - NATURAL GAS LDC GEOMETRIC MEAN ESTIMATE	5.13%	SCHEDULE WAR-7 PAGE 1, COLUMN (B), LINE 13
8	CAPM - WATER COMPANY ARITHMETIC MEAN ESTIMATE	6.83%	SCHEDULE WAR-7 PAGE 2, COLUMN (B), LINE 5
9	CAPM - NATURAL GAS LDC ARITHMETIC MEAN ESTIMATE	6.39%	SCHEDULE WAR-7 PAGE 2, COLUMN (B), LINE 13
10	**AVERAGE OF CAPM ESTIMATES**	**5.95%**	(SUM OF LINES 6 THRU 9) ÷ 4
11	**AVERAGE OF DCF AND CAPM ESTIMATES**	**7.93%**	(SUM OF LINES 4 AND 10) ÷ 2
12	**FINAL COST OF COMMON EQUITY ESTIMATE**	**9.00%**	TESTIMONY WAR

BELLA VISTA WATER COMPANY, INC.

DOCKET NO. W-02465A-09-0411 ET AL.

SUPPLEMENTAL DIRECT TESTIMONY
AND RATE DESIGN

OF

RODNEY L. MOORE

ON BEHALF OF

THE

RESIDENTIAL UTILITY CONSUMER OFFICE

APRIL 23, 2010

TABLE OF CONTENTS

INTRODUCTION

Q. Please state your name, position, employer and address.

A. My name is Rodney L. Moore. I am a Public Utilities Analyst V with the Residential Utility Consumer Office ("RUCO"), located at 1110 West Washington Street, Suite 220, Phoenix, Arizona 85007.

Q. Have you previously filed testimony regarding this docket?

A. Yes. I filed direct testimony in this docket on April 12, 2010.

Q. What is the purpose of your supplemental direct testimony?

A. My supplemental direct testimony has three components. First, I will address Bella Vista's application on a stand-alone basis with an accompanying set of separate schedules for each of the three Companies (BVWC, NSWC and SSWC) to reflect the impact of RUCO's adjustments on the individual systems. Second, I will provide stand-alone rate designs and prove that those rate designs will produce RUCO's recommended revenues. Also an analysis of a typical residential bill for BVWC, NSWC and SSWC has been included. Finally, I will provide an alternative consolidated rate design, consolidated proof of revenue and consolidated typical bill analysis for the Commission's consideration.

To support RUCO's position in this supplemental direct testimony, Schedules numbered RLM-1 through RLM-14, RLM-RD1 and RLM-RD2 have been prepared for each Company (BVWC, NSWC and SSWC), plus a consolidated rate design numbered RLM-RD1 and RLM-RD2 is also included in this rate case proceeding.

SUMMARY OF ADJUSTMENTS

Q. Please summarize the adjustments to rate base, operating income and revenue requirement addressed in your supplemental testimony.

A. My supplemental testimony addresses RUCO adjustments previously identified in direct testimony filed on April 12, 2010 to reflect their impact on each of the three Companies (BVWC, NSWC and SSWC) individually. The issues previously discussed by RUCO on April 12, 2010 are as follows:

Rate Base

Post Test Year Gross Plant-In-Service and Accumulated Depreciation – This adjustment reflects changes in recorded plant costs from budget to the actual amounts in BVWC.

Customer Deposits – This adjustment reflects updated information to decrease meter deposits in BVWC and NSWC.

Accumulated Deferred Income Taxes – RUCO witness Timothy Coley will sponsor this adjustment for BVWC, NSWC and SSWC.

Operating Income

Test Year Depreciation Expense – This adjustment corrects a Company calculation error by including all depreciation expenses in the summation for BVWC.

Property Tax Expense - This adjustment reflects property tax expense based on RUCO's calculation of adjusted and proposed operating revenues for BVWC, NSWC and SSWC.

Miscellaneous Operating Expenses – These adjustments remove unnecessary operating expenses not required for the provisioning of water service and/or remove test year expenses deemed atypical and non-recurring in BVWC.

Central Office Cost Allocations - RUCO witness Timothy Coley will sponsor this adjustment for BVWC, NSWC and SSWC.

Rate Case Expense - This adjustment is based on RUCO's determination of the fair and reasonable cost to ratepayers for this application process for BVWC, NSWC and SSWC.

Income Tax Expense – This adjustment reflects income tax expenses calculated on RUCO's recommended revenues and expenses for BVWC, NSWC and SSWC.

STAND-ALONE REVENUE REQUIREMENTS

Q. Please summarize the results of RUCO's analysis of the Company's filing and state RUCO's recommended revenue requirement.

A. As outlined in Schedule RLM-1, on a stand-alone basis RUCO is recommending that the Company's revenue requirement not exceed the following levels:

	COMPANY	RUCO	DIFFERENCE
BVWC	$4,484,734	$3,926,801	($557,933)
NSWC	$448,011	$359,250	($88,761)
SSWC	$753,226	$379,025	($374,201)

On a stand-alone basis, RUCO's recommended increase in Fair Value Rate Base ("FVRB") is based on the Company's Original Cost Rate Base ("OCRB") and is summarized on Schedule RLM-1:

	COMPANY	RUCO	DIFFERENCE
BVWC	$6,343,311	$5,180,398	($1,162,913)
NSWC	$742,658	$689,708	($52,950)
SSWC	$1,544,434	$1,418,329	($126,105)

On a stand-alone basis, RUCO's recommended required operating income is shown on Schedule RLM-1 as:

	COMPANY	RUCO	DIFFERENCE
BVWC	$683,175	$427,120	($256,055)
NSWC	$95,060	$54,515	($40,545)
SSWC	$197,688	$112,105	($85,583)

On a stand-alone basis, RUCO's recommended revenue requirement percentage increase versus the Company's proposal is as follows:

	COMPANY	RUCO	DIFFERENCE
BVWC	27.19 %	11.37 %	-15.82 %
NSWC	133.38 %	87.14 %	-46.24 %
SSWC	69.59 %	-14.66 %	-84.22 %

Schedule RLM-1 presents the calculation of RUCO's recommended revenue requirement.

STAND-ALONE RATE BASE

Rate Base Adjustment No. 1 – Post Test Year Gross Plant-In-Service and Accumulated Depreciation

Q. Please indicated where your adjustment to the post test year gross plant-in-service and the accumulated depreciation is explained.

A. My analysis is explained in my previously filed direct testimony starting on page 8, line 17 and relates specifically to an adjustment to reflect actual costs incurred.

As shown on BVWC's Schedule RLM-3, column (B), and with supporting Schedule RLM-4, these adjustments decrease gross utility plant in service by $1,940 and accumulated depreciation by $3,610 for a net reduction in the adjusted test year rate base of $5,550.

Rate Base Adjustment No. 2 – Customer Deposits

Q. Please indicated where your adjustment to the customer deposits is explained.

A. My analysis is explained in my previously filed direct testimony starting on page 9, line 10 and relates specifically to a reduction in customer deposits.

As shown on BVWC's Schedule RLM-3, column (C), this adjustment increased the adjusted test year rate base by $121,861.

Rate Base Adjustment No. 3 – Accumulated Deferred Income Taxes

Q. Please indicate where this adjustment to accumulated deferred income taxes was analyzed by RUCO.

A. This adjustment is sponsored by RUCO witness Timothy Coley, please refer to his previously filed testimony starting on page 4, line 19 for clarification.

Q. Please explain how RUCO determined the allocation factor to appropriately determine the accumulated deferred income tax allocation to each individual Company.

A. Mr. Coley computed the allocation factor by calculating the ratio of the Company's "customer counts" for each system to the total combined customer count of the Company.

Based on Mr. Coley's testimony and as shown on BVWC's, NSWC's and SSWC's Schedule RLM-3, column (D), and with supporting Schedule RLM-5 this adjustment decreased their adjusted test year rate base by $1,279,224, $52,949 and $126,105, respectively.

STAND-ALONE OPERATING INCOMES

Operating Income Adjustment No. 1 – Test Year Depreciation Expense

Q. Please indicated where your adjustment to the test year depreciation expense is explained.

A. My analysis is explained in my previously filed direct testimony starting on page 10, line 20 and relates specifically to a Company computation error.

As shown on BVWC's Schedule RLM-7, column (B), with supporting documentation on Schedule RLM-8, this adjustment increased the adjusted test year operating expenses by $32,214.

Operating Income Adjustment No. 2 – Property Tax Computation

Q. Please indicated where your adjustment to the property taxes is explained.

A. My analysis is explained in my previously filed direct testimony starting on page 11, line 5 and relates specifically to RUCO's lower level of adjusted and proposed operating revenues.

As shown on BVWC's, NSWC's and SSWC's Schedule RLM-7, column (C), with supporting documentation on Schedule RLM-9 this adjustment decreased their adjusted test year operating expenses by $6,877, $1,172 and $175,308, respectively.

Operating Income Adjustment No. 3 – Miscellaneous Expense

Q. Please indicated where your adjustment to the miscellaneous expense is explained.

A. My analysis is explained in my previously filed direct testimony starting on page 11, line 20 and relates specifically to the removal of unnecessary expenditures for charitable donations and a Company Christmas party.

As shown on BVWC's Schedule RLM-7, column (D), with supporting documentation on Schedule RLM-10, this adjustment decreased test year expenses by $2,500.

Operating Income Adjustment No. 4 – Central Office Cost Allocations

Q. Please indicate where this adjustment to the allocation of central office costs was analyzed by RUCO.

A. This adjustment is sponsored by RUCO witness Timothy Coley, please refer to his previously filed testimony starting on page 25, line 18 for clarification.

Q. Please explain how RUCO determined the allocation factor to appropriately determine the central office cost alllocations to each individual Company.

A. Mr. Coley computed the allocation factor by calculating the ratio of the Company's "customer counts" for each system to the total combined customer count of the Company.

Based on Mr. Coley's testimony and as shown on BVWC's, NSWC's and SSWC's Schedule RLM-7, column (E), and with supporting Schedule RLM-11 this adjustment decreased their adjusted test year rate base by $127,133, $5,262 and $12,53, respectively.

<u>Operating Income Adjustment No. 5 – Rate Case Expense</u>

Q. Please indicated where your adjustment to rate case expenses is explained.

A. My analysis is explained in my previously filed direct testimony starting on page 13, line 1. I decreased rate case expenses based on my analysis of the Company's actual and estimated costs associated with this proceeding.

Q. Please explain how RUCO determined the allocation factor to appropriately assess rate case expenses to each individual Company.

A. I computed the allocation factor by calculating the ratio of the Company's request rate case expenses for each system to the total aggregate amount of rate case expenses estimated by the Company.

As shown on BVWC's, NSWC's and SSWC's Schedule RLM-7, column (F) and supporting Schedule RLM-12, this adjustment decreased their adjusted test year expenses by $49,333, $8,693 and $8,640, respectively.

Operating Income Adjustment No. 6 – Income Taxes

Q. Please indicated where your adjustment to income taxes is explained.

A. My analysis is explained in my previously filed direct testimony starting on page 14, line 8 and relates specifically to RUCO's reduced revenue requirements.

As shown on BVWC's, NSWC's and SSWC's Schedule RLM-7, column (H) and supporting Schedule RLM-13, this adjustment increased their adjusted test year expenses by $67,106, $11,580 and $43,195, respectively.

STAND-ALONE COSTS OF CAPITAL

Q. Has RUCO conducted separate cost of capital analysis for BVWC, NSWC and SSWC?

A. Yes. RUCO witness William A. Rigsby has filed testimony on the cost of capital issues associated with the case. His recommended stand-alone capital structure and weighted average cost of capital is exhibited on BVWC's, NSWC's and SSWC's Schedule RLM-14.

STAND-ALONE RATE DESIGNS

Q. Please explain RUCO's stand-alone rate designs.

A. RUCO is recommending a stand-alone rate design that is generally consistent with the Company's proposed stand-alone rate design.

However, my rate design reflects RUCO's recommended revenue requirements and provides proof that the design will produce the appropriate revenue requirements.

Q. Please explain your contribution to RUCO's recommended rate designs.

A. I was responsible for producing an accurate set of bill determinants (i.e. test-year customer bill counts, gallons of water consumed). I am in agreement with the bill determinants normalized by the Company. My recommended bill determinants are an integral part of the rate designs presented on Schedules RLM-RD1.

Q. Does RUCO support the Company's request to consolidate operations and the transfer of utility assets of Bella Vista Water Company, Inc., Northern Sunrise Water Company, Inc. and Southern Sunrise Water Company, Inc. into Bella Vista Water Company, Inc.?

A. RUCO supports stand-alone rates. As explained in the direct testimony of RUCO Director Jodi Jerich, RUCO recommends rate designs on a stand-alone basis, but will not object to consolidation, if the Commission determines that such a rate design is in the public interest.

Please refer to the supplemental direct testimony filed by RUCO Director Jodi Jerich for the rationale and analysis of public policy regarding RUCO's position on rate design recommendations.

STAND-ALONE PROOF OF RECOMMENDED REVENUES

Q. Have you prepared a Schedule presenting proof of your recommended revenue?

A. Yes, I have. Proof that my recommended stand-alone rate designs will produce the recommended required revenue as illustrated, is presented also on Schedule RLM-RD1.

STAND-ALONE TYPICAL BILL ANALYSIS

Q. Have you prepared a Schedule representing the financial impact of RUCO's recommended stand-alone rate design on the typical residential customer?

A. Yes. A typical bill analysis for residential customers with various levels of usage is presented on Schedule RLM-RD2. The stand-alone rate designs will affect customers of BVWC, NSWC and SSWC differently.

Q. Please describe the financial impact of RUCO's rate design on the average BVWC residential customer.

A. RUCO's rate designs propose a basic service charge for residential customers of BVWC with a 5/8" X 3/4" meter of $16.10 (versus $18.46 proposed by the Company) and commodity charges of $1.3341 per thousand gallons for the first 4,000 gallons, $1.9445 per thousand gallons for the next 6,000 gallons and $2.2932 per thousand gallons for all usage above 10,000 gallons (versus $1.5300, $2.2300 and $2.6300, proposed respectively by the Company).

For residential customers of BVWC with a 5/8" X 3/4" meter and average consumption of 6,612 gallons, RUCO's rate design provides for a $3.04 or 15.70 percent increase, which is a decrease of $4.47 or 59.52 percent over the Company's requested $7.51 or 32.79 percent increase.

Q. Please describe the financial impact of RUCO's rate design on the average NSWC residential customer.

A. RUCO's rate designs propose a basic service charge for residential customers of NSWC with a 5/8" X 3/4" meter of $60.35 (versus $75.39 proposed by the Company) and commodity charges of $3.8902 per thousand gallons for the first 4,000 gallons, $4.6907 per thousand gallons for the next 6,000 gallons and $5.6112 per thousand gallons for all usage above 10,000 gallons (versus $4.8600, $5.8600 and $7.0100, proposed respectively by the Company).

For residential customers of NSWC with a 5/8" X 3/4" meter and average consumption of 5,755 gallons, RUCO's rate design provides for a $41.06 or 95.33 percent increase, which is a decrease of $20.98 or 33.82 percent over the Company's requested $62.04 or 144.02 percent increase.

Q. Please describe the financial impact of RUCO's rate design on the average SSWC residential customer.

A. RUCO's rate designs propose a basic service charge for residential customers of SSWC with a 5/8" X 3/4" meter of $26.96 (versus $54.37 proposed by the Company) and commodity charges of $1.7406 per thousand gallons for the first 4,000 gallons, $2.1126 per thousand gallons for the next 6,000 gallons and $2.6828 per thousand gallons for all usage above 10,000 gallons (versus \$3.5100, \$4.2600 and \$5.4100, proposed respectively by the Company).

For residential customers of SSWC with a 5/8" X 3/4" meter and average consumption of 5,581 gallons, RUCO's rate design provides for a \$5.33 or 12.52 percent decrease, which is a decrease of \$37.88 or 116.37 percent over the Company's requested \$32.55 or 76.41 percent increase.

CONSOLIDATED RATE DESIGN

Q. Please explain RUCO's position on consolidated rate design.

A. RUCO will not oppose consolidated rates if the Commission finds that such rate design is in the public interest.

Therefore, RUCO is providing an alternative consolidated rate design that is generally consistent with the Company's proposed consolidated rate design, but reflects RUCO's recommended revenue requirements and provides proof that the design will produce the appropriate revenue requirements.

CONSOLIDATED PROOF OF RECOMMENDED REVENUE

Q. Have you prepared a Schedule presenting proof of your recommended revenue?

A. Yes, I have. Proof that my recommended consolidated rate design will produce the recommended required revenue as illustrated, is presented also on Schedule RLM-RD1.

CONSOLIDATED TYPICAL BILL ANALYSIS

Q. Have you prepared a Schedule representing the financial impact of RUCO's consolidated rate design on the typical residential customer?

A. Yes. A typical bill analysis for residential customers with various levels of usage is presented on Schedule RLM-RD2.

The consolidated rate design will affect customers of BVWC, NSWC and SSWC differently.

RUCO's rate designs propose a basic service charge for residential customers of BVWC with a 5/8" X 3/4" meter of $15.47 (versus $17.92 proposed by the Company) and commodity charges of $1.7059 per thousand gallons for the first 4,000 gallons, $2.5693 per thousand gallons for the next 6,000 gallons and $3.3464 per thousand gallons for all usage above 10,000 gallons (versus $1.9756, $2.9756 and $3.8756 proposed respectively by the Company).

Q. Please describe the financial impact of RUCO's rate design on the average BVWC residential customer.

A. For residential customers of BVWC with a 5/8" X 3/4" meter and average consumption of 6,612 gallons, RUCO's rate design provides for a $6.11 or 26.69 percent increase, which is a decrease of $4.59 or 20.03 percent over the Company's requested $10.70 or 46.72 percent increase.

Q. Please describe the financial impact of RUCO's rate design on the average NSWC residential customer.

A. For residential customers of NSWC with a 5/8" X 3/4" meter and average consumption of 5,755 gallons, RUCO's rate design provides for a ($16.27) or -37.77 percent decrease, which is an increase of $4.24 or 9.84 percent over the Company's requested ($12.03) or -27.93 percent decrease.

Q. Please describe the financial impact of RUCO's rate design on the average SSWC residential customer.

A. For residential customers of SSWC with a 5/8" X 3/4" meter and average consumption of 5,581 gallons, RUCO's rate design provides for a ($16.24) or -38.12 percent decrease, which is an increase of $4.17 or 9.78 percent over the Company's requested ($12.07) or -28.34 percent decrease.

Q. Does this conclude your supplemental direct testimony?

A. Yes, it does.

Bella Vista Water Company (Stand-Alone)
Docket No. W-02453A-09-0414 et al.
Test Year Ended March 31, 2009

TABLE OF CONTENTS TO RLM SCHEDULES

Bella Vista Water Company (Stand-Alone)
Docket No. W-02453A-09-0414 et al.
Test Year Ended March 31, 2009

REVENUE REQUIREMENT

LINE NO.	DESCRIPTION		(A) COMPANY OCRB/FVRB COST		(B) RUCO OCRB/FVRB COST
1	Fair Value Rate Base	$	6,343,311	$	5,180,398
2	Adjusted Operating Income (Loss)	$	94,521	$	181,044
3	Current Rate Of Return (L2 / L1)		1.49%		3.49%
4	Required Operating Income (L5 X L1)	$	683,175	$	427,120
5	Required Rate Of Return On Fair Value Rate Base		10.77%		8.24%
6	Operating Income Deficiency (L4 - L2)	$	588,653	$	246,076
7	Gross Revenue Conversion Factor (RLM-1, Pg 2)		1.6286		1.6286
8	Increase In Gross Revenue Requirement (L7 X L6)	$	958,701	$	400,768
9	Adjusted Test Year Revenue	$	3,526,033	$	3,526,033
10	Proposed Annual Revenue (L8 + L9)	$	4,484,734	$	3,926,801
11	Required Percentage Increase In Revenue (L8 / L9)		27.19%		11.37%
12	Rate Of Return On Common Equity		12.50%		9.00%

References:
Column (A): Company Schedules A-1 and C-1
Column (B): RUCO Schedule RLM-2, RLM-6, And RLM-14

REVENUE REQUIREMENT - CONT'D
GROSS REVENUE CONVERSION FACTOR

LINE NO.	DESCRIPTION	(A)	(B)	(C)	(D)
	CALCULATION OF GROSS REVENUE CONVERSION FACTOR:				
1	Revenue	1.0000			
2	Combined Federal And State Tax Rate (L10)	(0.3860)			
3	Subtotal (L1 + L2)	0.6140			
4	**Revenue Conversion Factor** (L1 / L3)	1.6286			
	CALCULATION OF EFFECTIVE TAX RATE:				
5	Operating Income Before Taxes (Arizona Taxable Income)	100.0000%			
6	Arizona State Income Tax Rate	6.9680%			
7	Federal Taxable Income (L5 - L6)	93.0320%			
8	Applicable Federal Income Tax Rate (Col. (D), L34)	34.0000%			
9	Effective Federal Income Tax Rate (L7 X L8)	31.6309%			
10	Combined Federal And State Income Tax Rate (L6 + L9)	38.5989%			
11	Required Operating Income (Sch. RLM-1, Col. (B), L4)	$ 427,120			
12	Adj'd T.Y. Oper'g Inc. (Loss) (Sch. RLM-1, Col. (B), L2)	181,044			
13	Required Increase In Operating Income (L11 - L12)		$ 246,076		
14	Income Taxes On Recommended Revenue (Col. (D), L31)	$ 211,730			
15	Income Taxes On Test Year Revenue (Col. (D), L32)	57,038			
16	Required Increase In Revenue To Provide For Income Taxes (L14 - L15)		$ 154,692		
17	Total Required Increase In Revenue (L13 + L16)		$ 400,768		
	CALCULATION OF INCOME TAX:			RUCO Recommended	
18	Revenue (Sch. RLM-1, Col. (B), L10)			$ 3,926,801	
19	Operating Expense Excluding Income Tax (RLM-6, Col. (E), L28 - L27)			(3,287,951)	
20	Synchronized Interest (Col. (C), L37)			(90,311)	
21	Arizona Taxable Income (L18 + L19 + L20)			$ 548,538	
22	Arizona State Income Tax Rate			6.9680%	
23	Arizona Income Tax (L21 X L22)				$ 38,222
24	Fed. Taxable Income (L21 - L23)			$ 510,316	
25	Fed. Tax On 1st Inc. Bracket ($1 - $50,000) @ 15%			$ 7,500	
26	Fed. Tax On 2nd Inc. Bracket ($50,001 - $75,000) @ 25%			6,250	
27	Fed. Tax On 3rd Inc. Bracket ($75,001 - $100,000) @ 34%			8,500	
28	Fed. Tax On 4th Inc. Bracket ($100,001 - $335,000) @ 39%			91,650	
29	Fed. Tax On 5th Inc. Bracket ($335,001 - $10M) @ 34%			59,608	
30	Total Federal Income Tax (L25 + L26 + L27 + L28 + L29)				$ 173,508
31	Combined Federal And State Income Tax (L23 + L30)				$ 211,730
32	Test Year Combined Income Tax, RUCO As Adjusted (RLM-6, Col. (C), L24)				$ 57,038
33	RUCO Adjustment (L31 - L32) (See RLM-6, Col. (D), L24)				$ 154,692
34	Applicable Federal Income Tax Rate (Col. (D), L30 / Col. (C), L24)				34.00%
	CALCULATION OF INTEREST SYNCHRONIZATION:				
35	Rate Base (Sch. RLM-2, Col. (H), L15)			$ 5,180,398	
36	Weighted Avg. Cost Of Debt (Sch. RLM-14, Col. (F), L1)			1.74%	
37	Synchronized Interest (L35 X L36)			$ 90,311	

Bella Vista Water Company (Stand-Alone)
Docket No. W-02453A-09-0414 et al.
Test Year Ended March 31, 2009

SUMMARY OF ORIGINAL COST RATE BASE ADJUSTMENTS

LINE NO.	DESCRIPTION	(A) COMPANY AS FILED OCRB/FVRB	(B) RUCO ADJUSTMENTS	(C) RUCO AS ADJUSTED OCRB/FVRB
1	Gross Utility Plant In Service	$ 25,625,206	$ (1,940)	$ 25,623,266
2	Accumulated Depreciation	(11,909,440)	(3,610)	(11,913,050)
3	Net Utility Plant In Service (L1 + L2)	$ 13,715,765	$ (5,550)	$ 13,710,215
4	Advances In Aid Of Const.	$ (6,781,443)	$ -	$ (6,781,443)
5	Contribution In Aid Of Const.	$ (496,445)	$ -	$ (496,445)
6	Accumulated Amortization Of CIAC	230,909	-	230,909
7	NET CIAC (L5 + L6)	$ (265,536)	$ -	$ (265,536)
8	Customer Meter Deposits	$ (556,325)	$ 134,361	$ (421,964)
9	Customer Hydrant Meter Deposits	$ -	$ (12,500)	$ (12,500)
10	Deferred Income Taxes & Credits	$ 230,850	$ (1,279,224)	$ (1,048,374)
11	Unamortized Finance Charges	$ -	$ -	$ -
12	Deferred Regulatory Assets	$ -	$ -	$ -
13	Allowance For Working Capital	$ -	$ -	$ -
14	TOTAL RATE BASE (Sum L's 3, 4, 7, 8 Thru 12)	$ 6,343,311	$ (1,162,913)	$ 5,180,398

References:
Column (A): Company Schedule B-2, Page 1 And Workpapers Schedule E-1
Column (B): RLM-3, Columns (B) Thru (G)
Column (C): Column (A) + Column (B)

Bella Vista Water Company (Stand-Alone)
Docket No. W-02453A-09-0414 et al.
Test Year Ended March 31, 2009

SUMMARY OF ORIGINAL COST RATE BASE ADJUSTMENTS

LINE NO.	DESCRIPTION	(A) COMPANY AS FILED OCRB/FVRB	(B) ADJ # 1 POST TY PLT & ACC DEP	(C) ADJ # 2 CUSTOMER DEPOSITS	(D) ADJ # 3 DEFERRED INCOME TAX	(E) INTENT'NLY LEFT BLANK	(F) INTENT'NLY LEFT BLANK	(G) INTENT'NLY LEFT BLANK	(H) RUCO ADJ'TED OCRB/FVRB
1	Gross Utility Plant In Service	$ 25,625,206	$ (1,940)	$ -	$ -	$ -	$ -	$ -	$ 25,623,266
2	Accumulated Depreciation	(11,909,440)	(3,610)	-	-	-	-	-	(11,913,050)
3	Net Utility Plant In Service (L1 + L2)	$ 13,715,765	$ (5,550)	$ -	$ -	$ -	$ -	$ -	$ 13,710,215
4	Advances In Aid Of Const.	$ (6,781,443)	$ -	$ -	$ -	$ -	$ -	$ -	$ (6,781,443)
5	Contribution In Aid Of Const.	$ (496,445)	$ -	$ -	$ -	$ -	$ -	$ -	$ (496,445)
6	Accumulated Amortization Of CIAC	230,909	-	-	-	-	-	-	230,909
7	NET CIAC (L5 + L6)	$ (265,536)	$ -	$ -	$ -	$ -	$ -	$ -	$ (265,536)
8	Customer Meter Deposits	$ (556,325)	$ -	$ 134,361	$ -	$ -	$ -	$ -	$ (421,964)
9	Customer Hydrant Meter Deposits	$ -	$ -	$ (12,500)	$ -	$ -	$ -	$ -	$ (12,500)
10	Deferred Income Taxes & Credits	$ 230,850	$ -	$ -	$ (1,279,224)	$ -	$ -	$ -	$ (1,048,374)
11	Unamortized Finance Charges	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -
12	Deferred Regulatory Assets	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -
13	Allowance For Working Capital	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -
14	TOTAL RATE BASE (Sum L's 3, 4, 7, 8 Thru 12)	$ 6,343,311	$ (5,550)	$ 121,861	$ (1,279,224)	$ -	$ -	$ -	$ 5,180,398

References:
- Column (A): Company Schedule B-2, Page 1 And Workpapers Schedule E-1
- Column (B): Adjustment No. 1 - RUCO Adjustment To Post Test-Year GPIS And Acc. Dep. (See Testimony and Schedule RLM-4)
- Column (C): Adjustment No. 2 - RUCO Adjustment To Customer Deposits (See Testimony)
- Column (D): Adjustment No. 3 - RUCO Adjustment To Deferred Income Taxes (See Testimony Of RUCO Witness Tim Coley and Schedule RLM-5)
- Column (E): Intentionally Left Blank
- Column (F): Intentionally Left Blank
- Column (G): Intentionally Left Blank
- Column (H): Sum Of Columns (A), (B), (C), (D), (E) & (F)

Bella Vista Water Company (Stand-Alone)
Docket No. W-02453A-09-0414 et al.
Test Year Ended March 31, 2009

Schedule RLM-4

POST TEST YEAR PLANT SCHEDULE
YEAR ENDED JUNE 30, 2008

LINE NO.	ACCT. NO.	ACCOUNT NAME	(A) RUCO T/Y PLANT AS ADJUSTED	(B) RUCO POST TY ADJM'TS PLANT ADDITIONS	(C) RUCO POST TY ADJM'TS PLANT RETIRMENTS	(D) TOTAL PLANT VALUE	(E) ACC. DEP.	(F) NET PLANT VALUE
1	301	Organization Cost	$ -	$ -	$ -	$ -	$ -	$ -
2	302	Franchise Cost	-	-	-	-	-	-
3	303	Land and Land Rights	327,399	-	-	327,399	-	327,399
4	304	Structures and Improvements	1,312,116	-	-	1,312,116	(388,090)	924,027
5	305	Collecting and Impounding Res.	-	-	-	-	-	-
6	306	Lake River and Other Intakes	-	-	-	-	-	-
7	307	Wells and Springs	1,132,179	-	-	1,132,179	(525,150)	607,029
8	308	Infiltration Galleries and Tunnels	-	-	-	-	-	-
9	309	Supply Mains	-	-	-	-	-	-
10	310	Power Generation Equipment	-	-	-	-	-	-
11	311	Electric Pumping Equipment	2,487,503	-	-	2,487,503	(2,481,910)	5,593
12	320	Water Treatment Equipment	109,639	-	-	109,639	(50,073)	59,566
13	320.1	Water Treatment Equipment	-	-	-	-	-	-
14	320.2	Chemical Solution Feeders	-	-	-	-	-	-
15	330	Dist. Reservoirs & Standpipe	2,343,634	-	-	2,343,634	(812,593)	1,531,041
16	330.1	Storage tanks	-	-	-	-	-	-
17	330.2	Pressure Tanks	-	-	-	-	-	-
18	331	Trans. and Dist. Mains	12,600,027	104,507	(8,390)	12,696,144	(4,099,875)	8,596,269
19	333	Services	1,399,781	-	-	1,399,781	(834,738)	565,043
20	334	Meters	1,491,209	-	-	1,491,209	(1,491,209)	-
21	335	Hydrants	892,445	-	-	892,445	(282,181)	610,264
22	336	Backflow Prevention Devices	-	-	-	-	-	-
23	339	Other Plant and Misc. Equip.	69,551	-	-	69,551	(5,253)	64,299
24	340	Office Furniture and Fixtures	202,929	-	-	202,929	(170,545)	32,385
25	340.1	Computers and Software	161,264	-	-	161,264	(117,801)	43,463
26	341	Transportation Equipment	295,224	-	-	295,224	(291,918)	3,305
27	342	Stores Equipment	-	-	-	-	-	-
28	343	Tools and Work Equipment	124,683	-	-	124,683	(124,683)	-
29	344	Laboratory Equipment	-	-	-	-	-	-
30	345	Power Operated Equipment	31,548	-	-	31,548	(5,882)	25,666
31	346	Communications Equipment	435,668	-	-	435,668	(126,570)	309,098
32	347	Miscellaneous Equipment	110,348	-	-	110,348	(104,580)	5,768
33	348	Other Tangible Plant	-	-	-	-	-	-
34		Rounding	-			-	-	-
		0						
35	TOTAL WASTEWATER PLANT		$ 25,527,149	$ 104,507	$ (8,390)	$ 25,623,266	$ (11,913,050)	$ 13,710,215
36	Company As Filed					25,625,206	$ (11,909,440)	
37	Difference					(1,940)	$ (3,610)	
38	RUCO Adjustment (Line 37) (See RLM-3, Column (B))					(1,940)	$ (3,610)	

References:

Column (A): RUCO Workpapers RLM-4-A(1)
Columns (B) (C): Testimony, RLM
Column (D): Sum Of Columns (A), (B), & (C)
Column (E): Sum Of WP RLM-4-A(1), Column (B) And RLM-4, Column (C)
Column (F): Column (D) + Column (E)

Bella Vista Water Company (Stand-Alone)
Docket No. W-02453A-09-0414 et al.
Test Year Ended March 31, 2009

ACCUMULATED DEFERRED INCOME TAXES

LINE NO.	DESCRIPTION	(A) REFERENCE		(B) AMOUNT
	Deferred Income Taxes:			
1	Algonquin Accumulated Deferred Income Tax Assets	2008 Algonquin Annual Report	$	23,032,000
2	Algonquin Accumulated Deferred Income Tax Liabilities	2008 Algonquin Annual Report		(106,983,000)
3	Net Accumulated Deferred Income Tax Assets (Liabilities)	Line 1 + Line 2	$	(83,951,000)
4	Bella Vista Consolidated Allocation	Note (A)		1.5438%
5	Bella Vista Consolidated ADIT Liabilities Allocation	Line 3 X Line 4	$	(1,296,004)
6	Convert to US Dollars	Note (B)		0.9915
7	Bella Vista Consolidated Allocated ADIT Liabilites Balance	Line 5 X Line 6	$	(1,284,949)
8	Total Consolidated ADIT as Filed by Company	Company Schedule C-1		173,329
9	Decrease In Deferred Income Tax Assets	Line 7 - Line 8	$	(1,458,278)
10	Total Bella Vista Customer Count Factor	Per Company		0.8772
11	RUCO Adjustment (See RLM-3, Column (D), Line 10)	Line 9 X Line 10		(1,279,224)

NOTES:

12	(A)	Purchase Price of BVWC, NSWC and SSWC	Annual Report	$	15,100,000
13		Algonquin Total Assets	Annual Report	$	978,130,000
14		Ratio Of BVWC, NSWC & SSWC To Algonquin Total A	Line 12 / Line 13		1.5438%
15	(B)	Currency Conversion	moneycentral.com on 04/1/2010		0.9915

SUPPORTING SCHEDULES
2008 Algonquin Power Income Fund Annual Report

Bella Vista Water Company (Stand-Alone)
Docket No. W-02453A-09-0414 et al.
Test Year Ended March 31, 2009

OPERATING INCOME

LINE NO.	DESCRIPTION	(A) COMPANY AS FILED	(B) RUCO TEST YEAR ADJMTS	(C) RUCO TEST YEAR AS ADJ'TED	(D) RUCO PROP'D CHANGES	(E) RUCO AS RECOMM'D
	Revenues:					
1	Flat Rate Revenues	$ 3,400,892	$ -	$ 3,400,892	$ 400,768	$ 3,801,660
2	Misc. Service Revenues	-	-	-	-	-
3	Other WW Revenues	125,141	-	125,141	-	125,141
4	TOTAL OPERATING REVENUE	$ 3,526,033	$ -	$ 3,526,033	$ 400,768	$ 3,926,801
	Operating Expenses:					
5	Salaries and Wages	$ -	$ -	$ -	$ -	$ -
6	Purchased Water	708	-	708	-	708
7	Purchased Power	561,094	-	561,094	-	561,094
8	Fuel for Power Production	-	-	-	-	-
9	Chemicals	4,273	-	4,273	-	4,273
10	Materials & Supplies	36,932	-	36,932	-	36,932
11	Outside Services	4,605	-	4,605	-	4,605
12	Outside Services- Legal	35,245	-	35,245	-	35,245
13	Outside Services- Other	1,258,045	(127,133)	1,130,913	-	1,130,913
14	Water Testing	18,805	-	18,805	-	18,805
15	Equipment Rental		-	-	-	-
16	Rents	60,600	-	60,600	-	60,600
17	Transportation Expenses	78,117	-	78,117	-	78,117
18	Insurance - General Liability	38,930	-	38,930	-	38,930
19	Insurance - Health and Life	7,290	-	7,290	-	7,290
20	Reg. Comm. Exp.	9,017	-	9,017	-	9,017
21	Reg. Comm. Exp. - Rate Case	83,333	(49,333)	34,000	-	34,000
22	Miscellaneous Expense	65,966	(2,500)	63,466	-	63,466
23	Bad Debt Expense	9,526	-	9,526	-	9,526
24	Depreciation Expense	1,009,435	32,214	1,041,649	-	1,041,649
25	Taxes Other Than Income	-	-	-	-	-
26	Property Taxes	159,659	(6,877)	152,782	-	152,782
27	Income Tax	(10,068)	67,106	57,038	154,692	211,730
28	TOTAL OPERATING EXPENSES	$ 3,431,512	$ (86,523)	$ 3,344,989	$ 154,692	$ 3,499,681
29	OPERATING INCOME (LOSS)	$ 94,521		$ 181,044		$ 427,120

References:
- Column (A): Company Schedule C-1
- Column (B): RLM-7, Columns (B) Thru (H)
- Column (C): Column (A) + Column (B)
- Column (D): Revenue From RLM-1, Column (B), Line 8 And Income Tax From RLM-1, Column (B), Line 8 - Line 6
- Column (E): Column (C) + Column (D)

Bella Vista Water Company (Stand-Alone)
Docket No. W-02453A-09-0414 et al.
Test Year Ended March 31, 2009

SUMMARY OF OPERATING INCOME ADJUSTMENTS
TEST YEAR AS FILED AND ADJUSTMENTS

LINE NO.	DESCRIPTION	(A) COMPANY AS FILED	(B) ADJ # 1 DEP. EXPENSE	(C) ADJ # 2 PROPERTY TAX	(D) ADJ # 3 MISC. EXPENSES	(E) ADJ # 4 CENTRAL OFFICE COST	(F) ADJ # 5 RATE CASE EXPENSES	(G) LEFT BLANK	(H) ADJ # 6 INCOME TAX	(I) RUCO AS ADJT'D
	Revenues:									
1	Flat Rate Revenues	$ 3,400,892	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ 3,400,892
2	Misc. Service Revenues	-	-	-	-	-	-	-	-	-
3	Other WW Revenues	125,141	-	-	-	-	-	-	-	125,141
4	TOTAL OPR'G REV.	$ 3,526,033	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ 3,526,033
	Operating Expenses:									
5	Salaries and Wages	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -
6	Purchased Water	708	-	-	-	-	-	-	-	708
7	Purchased Power	561,094	-	-	-	-	-	-	-	561,094
8	Fuel for Power Production	-	-	-	-	-	-	-	-	-
9	Chemicals	4,273	-	-	-	-	-	-	-	4,273
10	Materials & Supplies	36,932	-	-	-	-	-	-	-	36,932
11	Outside Services	4,605	-	-	-	-	-	-	-	4,605
12	Outside Services- Legal	35,245	-	-	-	-	-	-	-	35,245
13	Outside Services- Other	1,258,045	-	-	-	(127,133)	-	-	-	1,130,913
14	Water Testing	18,805	-	-	-	-	-	-	-	18,805
15	Equipment Rental	-	-	-	-	-	-	-	-	-
16	Rents	60,600	-	-	-	-	-	-	-	60,600
17	Transportation Expenses	78,117	-	-	-	-	-	-	-	78,117
18	Insurance - General Liability	38,930	-	-	-	-	-	-	-	38,930
19	Insurance - Health and Life	7,290	-	-	-	-	-	-	-	7,290
20	Reg. Comm. Exp.	9,017	-	-	-	-	-	-	-	9,017
21	Reg. Comm. Exp. - Rate Case	83,333	-	-	-	-	(49,333)	-	-	34,000
22	Miscellaneous Expense	65,966	-	-	(2,500)	-	-	-	-	63,466
23	Bad Debt Expense	9,526	-	-	-	-	-	-	-	9,526
24	Depreciation Expense	1,009,435	32,214	-	-	-	-	-	-	1,041,649
25	Taxes Other Than Income	-	-	-	-	-	-	-	-	-
26	Property Taxes	159,659	-	(6,877)	-	-	-	-	-	152,782
27	Income Tax	(10,068)	-	-	-	-	-	-	67,106	57,038
29	TOTAL OPR'G EXP.	$ 3,431,512	$ 32,214	$ (6,877)	$ (2,500)	$ (127,133)	$ (49,333)	$ -	$ 67,106	$ 3,344,989
30	OPR'G INC. (LOSS)	$ 94,521								$ 181,044

References:
Column (A): Company Schedule C-1
Column (B): Testimony, RLM And Schedule RLM-8
Column (C): Testimony, RLM And Schedule RLM-9
Column (D): Testimony, RLM And Schedule RLM-10
Column (E): Testimony, TLC And Schedule RLM-11
Column (F): Testimony, RLM And Schedule RLM-12
Column (G): Intentionally Left Blank
Column (H): Testimony, RLM And Schedule RLM-13
Column (I): Sum Of Columns (A) Thru (H)

Bella Vista Water Company (Stand-Alone)
Docket No. W-02453A-09-0414 et al.
Test Year Ended March 31, 2009

EXPLANATION OF OPERATING INCOME ADJUSTMENT NO. 1
TEST YEAR DEPRECIATION EXPENSE

LINE NO.	ACCT. NO.	ACCOUNT NAME	(A) TOTAL PLANT VALUE	(B) APPROVED DEPRECIATION RATE	(C) TEST YEAR DEPRECIATION EXPENSE
1	301	Organization Cost	$ -	0.00%	$ -
2	302	Franchise Cost	-	0.00%	-
3	303	Land and Land Rights	327,399	0.00%	-
4	304	Structures and Improvements	1,312,116	3.33%	43,693
5	305	Collecting and Impounding Res.	-	2.50%	-
6	306	Lake River and Other Intakes	-	2.50%	-
7	307	Wells and Springs	1,132,179	3.33%	37,702
8	308	Infiltration Galleries and Tunnels	-	6.67%	-
9	309	Supply Mains	-	2.00%	-
10	310	Power Generation Equipment	-	5.00%	-
11	311	Electric Pumping Equipment	2,487,503	12.50%	310,938
12	320	Water Treatment Equipment	109,639	3.33%	3,651
13	320.1	Water Treatment Equipment	-	3.33%	-
14	320.2	Chemical Solution Feeders	-	20.00%	-
15	330	Dist. Reservoirs & Standpipe	2,343,634	2.22%	52,029
16	330.1	Storage tanks	-	2.22%	-
17	330.2	Pressure Tanks	-	5.00%	-
18	331	Trans. and Dist. Mains	12,696,144	2.00%	253,923
19	333	Services	1,399,781	3.33%	46,613
20	334	Meters	1,491,209	8.33%	124,218
21	335	Hydrants	892,445	2.00%	17,849
22	336	Backflow Prevention Devices	-	6.67%	-
23	339	Other Plant and Misc. Equip.	69,551	6.67%	4,639
24	340	Office Furniture and Fixtures	202,929	6.67%	13,535
25	340.1	Computers and Software	161,264	20.00%	32,253
26	341	Transportation Equipment	295,224	20.00%	59,045
27	342	Stores Equipment	-	4.00%	-
28	343	Tools and Work Equipment	124,683	5.00%	6,234
29	344	Laboratory Equipment	-	10.00%	-
30	345	Power Operated Equipment	31,548	5.00%	1,577
31	346	Communications Equipment	435,668	10.00%	43,567
32	347	Miscellaneous Equipment	110,348	10.00%	11,035
33	348	Other Tangible Plant	-	10.00%	-
34		Rounding	-		-
35	TOTAL WASTEWATER PLANT		$ 25,623,266		$ 1,062,500
	Less:				
36	Amortizations Of CIAC (RLM-2, Col. (C), Line 5)		$ (496,445)	4.2001%	(20,851)
37	TOTAL DEPRECIATION EXPENSE (Line 35 + Line 36)				$ 1,041,649
38	Test Year Depreciation Expense As Filed (Co. Sch. C-1)				1,009,435
39	Increase In Depreciation Expense (Line 37 - Line 37)				$ 32,214
40	RUCO Adjustment (Line 39) (See RLM-7, Column (B), Line 25)				$ 32,214

References: Column (A): RLM-4, Column (E)
Column (B): Company Schedule "C-2p1Depr"
Column (C): Column (A) X Column (B)

Bella Vista Water Company (Stand-Alone)
Docket No. W-02453A-09-0414 et al.
Test Year Ended March 31, 2009

EXPLANATION OF OPERATING INCOME ADJUSTMENT NO. 2
PROPERTY TAX COMPUTATION

LINE NO.	DESCRIPTION	REFERENCE	(A) AMOUNT	(B) TOTAL
	Calculation Of The Company's Full Cash Value:			
	Annual Operating Revenues:			
1	Adjusted Revenues In Year Ended December 2007	Sch. RLM-6, Col (C), Ln 4	$ 3,526,033	
2	Adjusted Revenues In Year Ended December 2007	Sch. RLM-6, Col (C), Ln 4	3,526,033	
3	Proposed Revenues	Sch. RLM-6, Col (E), Ln 4	3,926,801	
4	Total Three Year Operating Revenues	Sum Of Lines 1, 2 & 3	$ 10,978,867	
5	Average Annual Operating Revenues	Line 4 / 3	3,659,622	
6	Two Times Three Year Average Operating Revenues	Line 5 X 2		$ 7,319,245
	ADD:			
	10% Of Construction Work In Progress ("CWIP"):			
7	Test Year CWIP	Co. Sch. E-1	$ 379,887	
8	10% Of CWIP	Line 7 X 10%		$ 37,989
	SUBTRACT:			
	Transportation At Book Value:			
9	Original Cost Of Transportation Equipment	RLM-4, Col. (E), Ln 26	$ 295,224	
10	Acc. Dep. Of Transportation Equipment	RLM-4, Col. (F), Ln 26	(291,918)	
11	Book Value Of Transportation Equipment	Line 9 + Line 10		$ (3,305)
12	Company's Full Cash Value ("FCV")	Sum Of Lines 6, 8 & 11		$ 7,353,928
	Calculation Of The Company's Tax Liability:			
	MULTIPLY:			
	FCV X Valuation Assessment Ratio X Property Tax Rates:			
13	Assessment Ratio	House Bill 2779	21.0%	
14	Assessed Value	Line 12 X Line 13	$ 1,544,325	
	Property Tax Rates:			
15	Primary Tax Rate - 2009 Tax Notice	Co. Sch. C-2, Pg 3	9.8053%	
16	Secondary Tax Rate - 2009 Tax Notice	Co. Sch. C-2, Pg 3	0.0000%	
17	Estimated Tax Rate Liability	Line 15 + Line 16	9.81%	
18	Company's Tax Liability - Based On Full Cash Value	Line 14 X Line 17		$ 151,425
19	Company's Tax on Parcels	Co. Sch. C-2, Pg 3		$ 1,357
20	Company's Total Tax Liability	Line 18 + Line 19		$ 152,782
21	Test Year Adjusted Property Tax Expense As Filing	Co. Sch. C-1, Line 36		159,659
22	Increase In Property Tax Expense	Line 20 - Line 21		$ (6,877)
23	RUCO Adjustment (See RLM-7, Column (C), Line 27)	Line 22		$ (6,877)

Bella Vista Water Company (Stand-Alone)
Docket No. W-02453A-09-0414 et al.
Test Year Ended March 31, 2009

EXPLANATION OF OPERATING INCOME ADJUSTMENT NO. 3
DISALLOWANCE OF MISCELLANEOUS EXPENSES

LINE NO.	DESCRIPTION	REFERENCE	(A) TOTAL
	Disallowed Miscellaneous Expenses	Co. Response To Staff D. R. CSB 1-32	
1	Bella Vista Water Company Christmas Party		$ (2,000)
2	Special Olympics Pledge		(250)
3	Muscular Distrophy Association Donation		(250)
4	RUCO Adjustment To Unnecessary/Non-Recurring Expenses	Sum Of Lines 1 Thru 17	$ (2,500)
5	RUCO Adjustment (See RLM-7, Column (D))	Line 18	$ (2,500)

EXPLANATION OF OPERATING INCOME ADJUSTMENT NO. 4
CENTRAL OFFICE COST ALLOCATIONS

LINE NO.	DESCRIPTION	(A) COMPANY ACTUAL COSTS (CAN $)	(B) RUCO ALLOWED % OF COSTS	(C) RUCO ALLOWABLE COSTS	(D) RUCO UTILITIES % ALLOCATION	(E) RUCO ALLOCATED COSTS	(F) ALLOCATION % To BVWC	(G) RUCO ALLOCATED BVWC COSTS
1	Audit	$ 778,285	25.00%	$ 194,571	24.29%	$ 47,253	12.74%	$ 6,020
2	Tax Services	518,775	25.00%	129,694	24.29%	31,497	12.74%	4,013
3	Legal	159,053	25.00%	39,763	24.29%	9,657	12.74%	1,230
4	Other Professional Services	506,082	0.00%	-	24.29%	-	12.74%	-
5	Management Fee - Total	644,943	0.00%	-	24.29%	-	12.74%	-
6	Unit Holder Communications	156,766	0.00%	-	24.29%	-	12.74%	-
7	Trustee Fees	129,000	0.00%	-	24.29%	-	12.74%	-
8	Escrow & Transfer Agent Fees	96,138	0.00%	-	24.29%	-	12.74%	-
9	Rent	307,337	0.00%	-	24.29%	-	12.74%	-
10	Licenses/Fees & Permits	17,561	0.00%	-	24.29%	-	12.74%	-
11	Office Expenses	579,379	0.00%	-	24.29%	-	12.74%	-
12	Depreciation	211,653	25.00%	52,913	24.29%	12,850	12.74%	1,637
13	TOTAL	$ 4,104,971		$ 416,941		$ 101,257		$ 12,901
14	Company's APT Cost Allocation for Bella Vista in Canadian Dollars (Per RUCO DR 3.01)							$ 141,127
15	Conversion Factor to Convert Canadian Dollars to US Dollars per http://moneycentral.msn.com on April 1, 2010							0.99147
16	Company's APT Cost Allocation for Bella Vista in US Dollars							$ 139,923
17	RUCO's Allowed APT Cost Allocations in US Dollars							$ 12,791
18	RUCO's APT Cost Allocation Adjustment for Bella Vista in US Dollars							(127,133)
19	RUCO Adjustment (See RLM-7, Column (E))							(127,133)

References:
- Columns (A) (D) (F): Company Response To RUCO Data Requestion 3.01
- Column (B): Testimony, RUCO Witness Tim Coley
- Column (C): Sum Of Columns (A) & (B)
- Column (E): Column (C) X Column (D)
- Column (G): Column (E) X Column (F)

Bella Vista Water Company (Stand-Alone)
Docket No. W-02453A-09-0414 et al.
Test Year Ended March 31, 2009

EXPLANATION OF OPERATING INCOME ADJUSTMENT NO. 5
RATE CASE EXPENSE

LINE NO.	DESCRIPTION	(A) COMPANY ESTIMATE	(B) RUCO ADJM'T	(C) RUCO AS ADJ'D
1	Rate Case Expense Total	$ 250,000	$ (148,000)	$ 102,000
2	Normalization Period - 3 Years			3
3	RUCO Adjusted Rate Case Expense For Instant Case (Line 1 / 3 Years)			$ 34,000
4	Company Rate Case Expenses As Filed (Company Sch. C-2)			$ 83,333
5	RUCO Pro Forma Rate Case Expense (Lines 3 - 4)			$ (49,333)
6	RUCO Adjustment (Line 5) (See RLM-7, Column (F))			$ (49,333)

	RUCO CALCULATED RATE CASE EXPENSES	CONSOL'D TOTALS	BVWC ALONE	NSWC ALONE	SSWC ALONE
7	ACTUALS Invoices Per Fennemore Craig Total Costs Through February 2010	$ 59,206	$ 23,782	$ 17,633	$ 17,791
	ESTIMATES Based On Estimate From Black Mountain Sewer Co.	ALLOCAT'N FACTOR	ALLOCAT'N FACTOR	ALLOCAT'N FACTOR	ALLOCAT'N FACTOR
8	Remaining Costs For Company Witness Tom Borassa:	100.00%	55.56%	22.22%	22.22%
9	Rebuttal, Surrebuttal, Rejoinder And Trial Process;				
10	Final Schedules, Briefing, Evaluation Of ROO; Open Meeting Prep	$ 25,000	$ 13,889	$ 5,556	$ 5,556
			-	-	-
11	Expedited Hearing Transcript	5,000	2,778	1,111	1,111
			-	-	-
12	Fennemore Craig Estimated Remaining Costs		-	-	-
13	Rebuttal, Surrebuttal, Rejoinder And Trial Process;	45,000	25,000	10,000	10,000
14	Briefing	30,000	16,667	6,667	6,667
15	Reviewing ROO; Exceptions Open Meeting Prep	10,000	5,556	2,222	2,222
16	Post Decision Compliance And Filings	15,000	8,333	3,333	3,333
17	Per Diam Expenses	10,000	5,556	2,222	2,222
18	Rounding	794	441	176	176
19	RUCO ESTIMATED RATE CASE EXPENSES	$ 200,000	$ 102,000	$ 48,921	$ 49,079

Bella Vista Water Company (Stand-Alone)
Docket No. W-02453A-09-0414 et al.
Test Year Ended March 31, 2009

EXPLANATION OF OPERATING INCOME ADJUSTMENT NO. 6
INCOME TAX EXPENSE

LINE NO.	DESCRIPTION	(A) REFERENCE		(B) AMOUNT
	FEDERAL INCOME TAXES:			
1	Operating Income Before Taxes	Sch. RLM-6, Column (C), L29 + L27	$	238,082
	LESS:			
2	Arizona State Tax	Line 11		(10,297)
3	Interest Expense	Note (A) Line 20		(90,311)
4	Federal Taxable Income	Sum Of Lines 1 Thru 3	$	137,474
5	Federal Tax Rate	Sch. RLM-1, Pg 2, Col. (D), L34		34.00%
6	Federal Income Tax Expense	Line 4 X line 5	$	46,741
	STATE INCOME TAXES:			
7	Operating Income Before Taxes	Line 1	$	238,082
	LESS:			
8	Interest Expense	Note (A) Line 20		(90,311)
9	State Taxable Income	Sum Of Lines 7 & 8	$	147,770
10	State Tax Rate	Tax Rate		6.97%
11	State Income Tax Expense	Line 9 X Line 10	$	10,297
	TOTAL INCOME TAX EXPENSE:			
12	Federal Income Tax Expense	Line 6	$	46,741
13	State Income Tax Expense	Line 11		10,297
14	Total Income Tax Expense Per RUCO	Line12 + Line 13	$	57,038
15	Total Income Tax Expense Per Company (Per Company Sch. C-1)			(10,068)
16	Total Income Tax Adjustment	Line 14 - Line 15	$	67,106
17	RUCO Adjustment (See Sch. RLM-7, Column (K), L278)	Line16	$	67,106

NOTE (A):
Interest Synchronization:

18	Adjusted Rate Base (Sch. RLM-2, Col. (E), L15)	$	5,180,398
19	Weighted Cost Of Debt (Sch. RLM-14, Col. (F), L1)		1.74%
20	Interest Expense (L17 X L18)	$	90,311

Bella Vista Water Company (Stand-Alone)
Docket No. W-02453A-09-0414 et al.
Test Year Ended March 31, 2009

COST OF CAPITAL

LINE NO.	DESCRIPTION	(A) DOLLAR AMOUNT	(B) RUCO ADJTM'T	(C) RUCO ADJUSTED	(D) CAPITAL RATIO	(E) COST	(F) WEIGHTED COST RATE
1	Long-Term Debt	$ 1,697,323	$ -	$ 1,697,323	27.76%	6.28%	1.74%
2	Common Equity	6,354,582	-	6,354,582	72.24%	9.00%	6.50%
3	Total Capitalization	$ 8,051,905	$ -	$ 8,051,905	100.00%		
4	COST OF CAPITAL						8.24%

References:
Columns (A) Thru (F): See Testimony Of RUCO Witness William Rigsby

Northern Sunrise Water Company (Stand-Alone)
Docket No. W-02453A-09-0414 et al.
Test Year Ended March 31, 2009

TABLE OF CONTENTS TO RLM SCHEDULES

Northern Sunrise Water Company (Stand-Alone)
Docket No. W-02453A-09-0414 et al.
Test Year Ended March 31, 2009

REVENUE REQUIREMENT

LINE NO.	DESCRIPTION		(A) COMPANY OCRB/FVRB COST		(B) RUCO OCRB/FVRB COST
1	Fair Value Rate Base	$	742,658	$	689,708
2	Adjusted Operating Income (Loss)	$	(81,316)	$	(77,769)
3	Current Rate Of Return (L2 / L1)		-10.95%		-11.28%
4	Required Operating Income (L5 X L1)	$	95,060	$	54,515
5	Required Rate Of Return On Fair Value Rate Base		12.80%		7.90%
6	Operating Income Deficiency (L4 - L2)	$	176,376	$	132,283
7	Gross Revenue Conversion Factor (RLM-1, Pg 2)		1.4517		1.2646
8	Increase In Gross Revenue Requirement (L7 X L6)	$	256,044	$	167,284
9	Adjusted Test Year Revenue	$	191,966	$	191,966
10	Proposed Annual Revenue (L8 + L9)	$	448,011	$	359,250
11	Required Percentage Increase In Revenue (L8 / L9)		133.38%		87.14%
12	Rate Of Return On Common Equity		12.50%		9.00%

References:
Column (A): Company Schedules A-1 and C-1
Column (B): RUCO Schedule RLM-2, RLM-6, And RLM-14

Northern Sunrise Water Company (Stand-Alone)
Docket No. W-02453A-09-0414 et al.
Test Year Ended March 31, 2009

REVENUE REQUIREMENT - CONT'D
GROSS REVENUE CONVERSION FACTOR

LINE NO.	DESCRIPTION	(A)	(B)	(C)	(D)
	CALCULATION OF GROSS REVENUE CONVERSION FACTOR:				
1	Revenue	1.0000			
2	Combined Federal And State Tax Rate (L10)	(0.2092)			
3	Subtotal (L1 + L2)	0.7908			
4	**Revenue Conversion Factor** (L1 / L3)	1.2646			
	CALCULATION OF EFFECTIVE TAX RATE:				
5	Operating Income Before Taxes (Arizona Taxable Income)	100.0000%			
6	Arizona State Income Tax Rate	6.9680%			
7	Federal Taxable Income (L5 - L6)	93.0320%			
8	Applicable Federal Income Tax Rate (Col. (D), L34)	15.0000%			
9	Effective Federal Income Tax Rate (L7 X L8)	13.9548%			
10	Combined Federal And State Income Tax Rate (L6 + L9)	20.9228%			
11	Required Operating Income (Sch. RLM-1, Col. (B), L4)	$ 54,515			
12	Adj'd T.Y. Oper'g Inc. (Loss) (Sch. RLM-1, Col. (B), L2)	(77,769)			
13	Required Increase In Operating Income (L11 - L12)		$ 132,283		
14	Income Taxes On Recommended Revenue (Col. (D), L31)	$ 9,854			
15	Income Taxes On Test Year Revenue (Col. (D), L32)	(25,146)			
16	Required Increase In Revenue To Provide For Income Taxes (L14 - L15)		$ 35,000		
17	Total Required Increase In Revenue (L13 + L16)		$ 167,284		
	CALCULATION OF INCOME TAX:			RUCO Recommended	
18	Revenue (Sch. RLM-1, Col. (B), L10)			$ 359,250	
19	Operating Expense Excluding Income Tax (RLM-6, Col. (E), L28 - L27)			(294,881)	
20	Synchronized Interest (Col. (C), L37)			(17,270)	
21	Arizona Taxable Income (L18 + L19 + L20)			$ 47,099	
22	Arizona State Income Tax Rate			6.9680%	
23	Arizona Income Tax (L21 X L22)				$ 3,282
24	Fed. Taxable Income (L21 - L23)			$ 43,817	
25	Fed. Tax On 1st Inc. Bracket ($1 - $50,000) @ 15%			$ 6,573	
26	Fed. Tax On 2nd Inc. Bracket ($50,001 - $75,000) @ 25%			-	
27	Fed. Tax On 3rd Inc. Bracket ($75,001 - $100,000) @ 34%			-	
28	Fed. Tax On 4th Inc. Bracket ($100,001 - $335,000) @ 39%			-	
29	Fed. Tax On 5th Inc. Bracket ($335,001 - $10M) @ 34%			-	
30	Total Federal Income Tax (L25 + L26 + L27 + L28 + L29)				$ 6,573
31	Combined Federal And State Income Tax (L23 + L30)				$ 9,854
32	Test Year Combined Income Tax, RUCO As Adjusted (RLM-6, Col. (C), L24)				$ (25,146)
33	RUCO Adjustment (L31 - L32) (See RLM-6, Col. (D), L24)				$ 35,000
34	Applicable Federal Income Tax Rate (Col. (D), L30 / Col. (C), L24)				15.00%
	CALCULATION OF INTEREST SYNCHRONIZATION:				
35	Rate Base (Sch. RLM-2, Col. (H), L15)			$ 689,708	
36	Weighted Avg. Cost Of Debt (Sch. RLM-14, Col. (F), L1)			2.50%	
37	Synchronized Interest (L35 X L36)			$ 17,270	

Northern Sunrise Water Company (Stand-Alone)
Docket No. W-02453A-09-0414 et al.
Test Year Ended March 31, 2009

SUMMARY OF ORIGINAL COST RATE BASE ADJUSTMENTS

LINE NO.	DESCRIPTION	(A) COMPANY AS FILED OCRB/FVRB	(B) RUCO ADJUSTMENTS	(C) RUCO AS ADJUSTED OCRB/FVRB
1	Gross Utility Plant In Service	$ 815,886	$ -	$ 815,886
2	Accumulated Depreciation	(42,739)	-	(42,739)
3	Net Utility Plant In Service (L1 + L2)	$ 773,147	$ -	$ 773,147
4	Advances In Aid Of Const.	$ -	$ -	$ -
5	Contribution In Aid Of Const.	$ (26,000)	$ -	$ (26,000)
6	Accumulated Amortization Of CIAC	63	-	63
7	NET CIAC (L5 + L6)	$ (25,937)	$ -	$ (25,937)
8	Customer Meter Deposits	$ (410)	$ -	$ (410)
9	Customer Hydrant Meter Deposits	$ -	$ -	$ -
10	Deferred Income Taxes & Credits	$ (4,144)	$ (52,949)	$ (57,092)
11	Unamortized Finance Charges	$ -	$ -	$ -
12	Deferred Regulatory Assets	$ -	$ -	$ -
13	Allowance For Working Capital	$ -	$ -	$ -
14	TOTAL RATE BASE (Sum L's 3, 4, 7, 8 Thru 12)	$ 742,657	$ (52,949)	$ 689,708

References:
Column (A): Company Schedule B-2, Page 1 And Workpapers Schedule E-1
Column (B): RLM-3, Columns (B) Thru (G)
Column (C): Column (A) + Column (B)

Northern Sunrise Water Company (Stand-Alone)
Docket No. W-02453A-09-0414 et al.
Test Year Ended March 31, 2009

SUMMARY OF ORIGINAL COST RATE BASE ADJUSTMENTS

LINE NO.	DESCRIPTION	(A) COMPANY AS FILED OCRB/FVRB	(B) ADJ # 1 POST TY PLT & ACC DEP	(C) ADJ # 2 CUSTOMER DEPOSITS	(D) ADJ # 3 DEFERRED INCOME TAX	(E) INTENT'NLY LEFT BLANK	(F) INTENT'NLY LEFT BLANK	(G) INTENT'NLY LEFT BLANK	(H) RUCO ADJ'TED OCRB/FVRB
1	Gross Utility Plant In Service	$ 815,886	$ -	$ -	$ -	$ -	$ -	$ -	$ 815,886
2	Accumulated Depreciation	(42,739)	-	-	-	-	-	-	(42,739)
3	Net Utility Plant In Service (L1 + L2)	$ 773,147	$ -	$ -	$ -	$ -	$ -	$ -	$ 773,147
4	Advances In Aid Of Const.	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -
5	Contribution In Aid Of Const.	$ (26,000)	$ -	$ -	$ -	$ -	$ -	$ -	$ (26,000)
6	Accumulated Amortization Of CIAC	63	-	-	-	-	-	-	63
7	NET CIAC (L5 + L6)	$ (25,937)	$ -	$ -	$ -	$ -	$ -	$ -	$ (25,937)
8	Customer Meter Deposits	$ (410)	$ -	$ -	$ -	$ -	$ -	$ -	$ (410)
9	Customer Hydrant Meter Deposits	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -
10	Deferred Income Taxes & Credits	$ (4,144)	$ -	$ -	$ (52,949)	$ -	$ -	$ -	$ (57,092)
11	Unamortized Finance Charges	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -
12	Deferred Regulatory Assets	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -
13	Allowance For Working Capital	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -
14	TOTAL RATE BASE (Sum L's 3, 4, 7, 8 Thru 12)	$ 742,657	$ -	$ -	$ (52,949)	$ -	$ -	$ -	$ 689,708

References:
- Column (A): Company Schedule B-2, Page 1 And Workpapers Schedule E-1
- Column (B): Adjustment No. 1 - RUCO Adjustment To Post Test-Year GPIS And Acc. Dep. (See Testimony and Schedule RLM-4)
- Column (C): Adjustment No. 2 - RUCO Adjustment To Customer Deposits (See Testimony)
- Column (D): Adjustment No. 3 - RUCO Adjustment To Deferred Income Taxes (See Testimony Of RUCO Witness Tim Coley and Schedule RLM-5)
- Column (E): Intentionally Left Blank
- Column (F): Intentionally Left Blank
- Column (G): Intentionally Left Blank
- Column (H): Sum Of Columns (A), (B), (C), (D), (E) & (F)

POST TEST YEAR PLANT SCHEDULE
YEAR ENDED JUNE 30, 2008

LINE NO.	ACCT. NO.	ACCOUNT NAME	(A) RUCO T/Y PLANT AS ADJUSTED	(B) RUCO POST TY ADJM'TS PLANT ADDITIONS	(C) RUCO POST TY ADJM'TS PLANT RETIRMENTS	(D) TOTAL PLANT VALUE	(E) ACC. DEP.	(F) NET PLANT VALUE
1	301	Organization Cost	$ -	$ -	$ -	$ -	$ -	$ -
2	302	Franchise Cost	890	-	-	890	-	890
3	303	Land and Land Rights	23,926	-	-	23,926	-	23,926
4	304	Structures and Improvements	281,810	-	-	281,810	(5,969)	275,841
5	305	Collecting and Impounding Res.	51,378	-	-	51,378	(2,059)	49,319
6	306	Lake River and Other Intakes	-	-	-	-	-	-
7	307	Wells and Springs	34,064	-	-	34,064	(1,644)	32,420
8	308	Infiltration Galleries and Tunnels	-	-	-	-	-	-
9	309	Supply Mains	-	-	-	-	-	-
10	310	Power Generation Equipment	1,293	-	-	1,293	(75)	1,218
11	311	Electric Pumping Equipment	92,122	-	-	92,122	(12,342)	79,780
12	320	Water Treatment Equipment	-	-	-	-	-	-
13	320.1	Water Treatment Equipment	-	-	-	-	-	-
14	320.2	Chemical Solution Feeders	-	-	-	-	-	-
15	330	Dist. Reservoirs & Standpipe	102,018	-	-	102,018	(1,762)	100,255
16	330.1	Storage tanks	-	-	-	-	-	-
17	330.2	Pressure Tanks	-	-	-	-	-	-
18	331	Trans. and Dist. Mains	36,763	-	-	36,763	(1,661)	35,102
19	333	Services	30,106	-	-	30,106	(930)	29,176
20	334	Meters	8,244	-	-	8,244	(462)	7,783
21	335	Hydrants	59,298	-	-	59,298	(2,037)	57,262
22	336	Backflow Prevention Devices	-	-	-	-	-	-
23	339	Other Plant and Misc. Equip.	23,472	-	-	23,472	(1,799)	21,673
24	340	Office Furniture and Fixtures	-	-	-	-	-	-
25	340.1	Computers and Software	-	-	-	-	-	-
26	341	Transportation Equipment	-	-	-	-	-	-
27	342	Stores Equipment	-	-	-	-	-	-
28	343	Tools and Work Equipment	-	-	-	-	-	-
29	344	Laboratory Equipment	-	-	-	-	-	-
30	345	Power Operated Equipment	-	-	-	-	-	-
31	346	Communications Equipment	5,881	-	-	5,881	(691)	5,189
32	347	Miscellaneous Equipment	-	-	-	-	-	-
33	348	Other Tangible Plant	64,621	-	-	64,621	(11,309)	53,312
34		Rounding 0	-			-	-	-
35	TOTAL WASTEWATER PLANT		$ 815,886	$ -	$ -	$ 815,886	$ (42,739)	$ 773,147
36	Company As Filed					815,886	$ (42,739)	
37	Difference					-	$ -	
38	RUCO Adjustment (Line 37) (See RLM-3, Column (B))					-	$ -	

References:

Column (A): RUCO Workpapers RLM-4-A(1)
Columns (B) (C): Testimony, RLM
Column (D): Sum Of Columns (A), (B), & (C)
Column (E): Sum Of WP RLM-4-A(1), Column (B) And RLM-4, Column (C)
Column (F): Column (D) + Column (E)

Northern Sunrise Water Company (Stand-Alone)
Docket No. W-02453A-09-0414 et al.
Test Year Ended March 31, 2009

ACCUMULATED DEFERRED INCOME TAXES

LINE NO.	DESCRIPTION	(A) REFERENCE		(B) AMOUNT
	Deferred Income Taxes:			
1	Algonquin Accumulated Deferred Income Tax Assets	2008 Algonquin Annual Report	$	23,032,000
2	Algonquin Accumulated Deferred Income Tax Liabilities	2008 Algonquin Annual Report		(106,983,000)
3	Net Accumulated Deferred Income Tax Assets (Liabilities)	Line 1 + Line 2	$	(83,951,000)
4	Bella Vista Consolidated Allocation	Note (A)		1.5438%
5	Bella Vista Consolidated ADIT Liabilities Allocation	Line 3 X Line 4	$	(1,296,004)
6	Convert to US Dollars	Note (B)		0.9915
7	Bella Vista Consolidated Allocated ADIT Liabilites Balance	Line 5 X Line 6	$	(1,284,949)
8	Total Consolidated ADIT as Filed by Company	Company Schedule C-1		173,329
9	Decrease In Deferred Income Tax Assets	Line 7 - Line 8	$	(1,458,278)
10	Total Northern Sunrise Customer Count Factor	Per Company		0.0363
11	RUCO Adjustment (See RLM-3, Column (D), Line 11)	Line 9 X Line 10		(52,949)

NOTES:

12	(A)	Purchase Price of NSWC	Annual Report	$	15,100,000
13		Algonquin Total Assets	Annual Report	$	978,130,000
14		Ratio Of NSWC To Algonquin Total Assets	Line 12 / Line 13		1.5438%
15	(B)	Currency Conversion	moneycentral.com on 04/1/2010		0.9915

SUPPORTING SCHEDULES
2008 Algonquin Power Income Fund Annual Report

Northern Sunrise Water Company (Stand-Alone)
Docket No. W-02453A-09-0414 et al.
Test Year Ended March 31, 2009

OPERATING INCOME

LINE NO.	DESCRIPTION	(A) COMPANY AS FILED	(B) RUCO TEST YEAR ADJMTS	(C) RUCO TEST YEAR AS ADJTED	(D) RUCO PROP'D CHANGES	(E) RUCO AS RECOMM'D
	Revenues:					
1	Flat Rate Revenues	$ 188,672	$ -	$ 188,672	$ 167,283	$ 355,956
2	Misc. Service Revenues	-	-	-	-	-
3	Other WW Revenues	3,294	-	3,294	-	3,294
4	TOTAL OPERATING REVENUE	$ 191,966	$ -	$ 191,966	$ 167,283	$ 359,250
	Operating Expenses:					
5	Salaries and Wages	$ -	$ -	$ -	$ -	$ -
6	Purchased Water	-	-	-	-	-
7	Purchased Power	16,012	-	16,012	-	16,012
8	Fuel for Power Production	-	-	-	-	-
9	Chemicals	178	-	178	-	178
10	Materials & Supplies	5,094	-	5,094	-	5,094
11	Outside Services	-	-	-	-	-
12	Outside Services- Legal	1,302	-	1,302	-	1,302
13	Outside Services- Other	161,902	(5,262)	156,640	-	156,640
14	Water Testing	3,787	-	3,787	-	3,787
15	Equipment Rental	140	-	140	-	140
16	Rents	-	-	-	-	-
17	Transportation Expenses	21,524	-	21,524	-	21,524
18	Insurance - General Liability	9,692	-	9,692	-	9,692
19	Insurance - Health and Life	-	-	-	-	-
20	Reg. Comm. Exp.	587	-	587	-	587
21	Reg. Comm. Exp. - Rate Case	25,000	(8,693)	16,307	-	16,307
22	Miscellaneous Expense	11,726	-	11,726	-	11,726
23	Bad Debt Expense	3,306	-	3,306	-	3,306
24	Depreciation Expense	36,631	-	36,631	-	36,631
25	Taxes Other Than Income	-	-	-	-	-
26	Property Taxes	13,128	(1,172)	11,956	-	11,956
27	Income Tax	(36,727)	11,580	(25,146)	35,000	9,854
28	TOTAL OPERATING EXPENSES	$ 273,282	$ (3,547)	$ 269,735	$ 35,000	$ 304,736
29	OPERATING INCOME (LOSS)	$ (81,316)		$ (77,769)		$ 54,514

References:
Column (A): Company Schedule C-1
Column (B): RLM-7, Columns (B) Thru (H)
Column (C): Column (A) + Column (B)
Column (D): Revenue From RLM-1, Column (B), Line 8 And Income Tax From RLM-1, Column (B), Line 8 - Line 6
Column (E): Column (C) + Column (D)

Northern Sunrise Water Company (Stand-Alone)
Docket No. W-02453A-09-0414 et al.
Test Year Ended March 31, 2009

SUMMARY OF OPERATING INCOME ADJUSTMENTS
TEST YEAR AS FILED AND ADJUSTMENTS

LINE NO.	DESCRIPTION	(A) COMPANY AS FILED	(B) ADJ # 1 DEP. EXPENSE	(C) ADJ # 2 PROPERTY TAX	(D) ADJ # 3 MISC. EXPENSES	(E) ADJ # 4 CENTRAL OFFICE COST	(F) ADJ # 5 RATE CASE EXPENSES	(G) LEFT BLANK	(H) ADJ # 6 INCOME TAX	(I) RUCO AS ADJT'D
	Revenues:									
1	Flat Rate Revenues	$ 188,672	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ 188,672
2	Misc. Service Revenues	-	-	-	-	-	-	-	-	-
3	Other WW Revenues	3,294	-	-	-	-	-	-	-	3,294
4	TOTAL OPR'G REV.	$ 191,966	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ 191,966
	Operating Expenses:									
5	Salaries and Wages	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -
6	Purchased Water	-	-	-	-	-	-	-	-	-
7	Purchased Power	16,012	-	-	-	-	-	-	-	16,012
8	Fuel for Power Production	-	-	-	-	-	-	-	-	-
9	Chemicals	178	-	-	-	-	-	-	-	178
10	Materials & Supplies	5,094	-	-	-	-	-	-	-	5,094
11	Outside Services	-	-	-	-	-	-	-	-	-
12	Outside Services- Legal	1,302	-	-	-	-	-	-	-	1,302
13	Outside Services- Other	161,902	-	-	-	(5,262)	-	-	-	156,640
14	Water Testing	3,787	-	-	-	-	-	-	-	3,787
15	Equipment Rental	140	-	-	-	-	-	-	-	140
16	Rents	-	-	-	-	-	-	-	-	-
17	Transportation Expenses	21,524	-	-	-	-	-	-	-	21,524
18	Insurance - General Liability	9,692	-	-	-	-	-	-	-	9,692
19	Insurance - Health and Life	-	-	-	-	-	-	-	-	-
20	Reg. Comm. Exp.	587	-	-	-	-	-	-	-	587
21	Reg. Comm. Exp. - Rate Case	25,000	-	-	-	-	(8,693)	-	-	16,307
22	Miscellaneous Expense	11,726	-	-	-	-	-	-	-	11,726
23	Bad Debt Expense	3,306	-	-	-	-	-	-	-	3,306
24	Depreciation Expense	36,631	-	-	-	-	-	-	-	36,631
25	Taxes Other Than Income	-	-	-	-	-	-	-	-	-
26	Property Taxes	13,128	-	(1,172)	-	-	-	-	-	11,956
27	Income Tax	(36,727)	-	-	-	-	-	-	11,580	(25,146)
29	TOTAL OPR'G EXP.	$ 273,282	$ -	$ (1,172)	$ -	$ (5,262)	$ (8,693)	$ -	$ 11,580	$ 269,735
30	OPR'G INC. (LOSS)	$ (81,316)								$ (77,769)

References:
Column (A): Company Schedule C-1
Column (B): Testimony, RLM And Schedule RLM-8
Column (C): Testimony, RLM And Schedule RLM-9
Column (D): Testimony, RLM And Schedule RLM-10
Column (E): Testimony, TLC And Schedule RLM-11
Column (F): Testimony, RLM And Schedule RLM-12
Column (G): Intentionally Left Blank
Column (H): Testimony, RLM And Schedule RLM-13
Column (I): Sum Of Columns (A) Thru (H)

Northern Sunrise Water Company (Stand-Alone)
Docket No. W-02453A-09-0414 et al.
Test Year Ended March 31, 2009

EXPLANATION OF OPERATING INCOME ADJUSTMENT NO. 1
TEST YEAR DEPRECIATION EXPENSE

LINE NO.	ACCT. NO.	ACCOUNT NAME	(A) TOTAL PLANT VALUE	(B) APPROVED DEPRECIATION RATE	(C) TEST YEAR DEPRECIATION EXPENSE
1	301	Organization Cost	$ -	0.00%	$ -
2	302	Franchise Cost	890	0.00%	-
3	303	Land and Land Rights	23,926	0.00%	-
4	304	Structures and Improvements	281,810	3.33%	9,384
5	305	Collecting and Impounding Res.	51,378	2.50%	1,284
6	306	Lake River and Other Intakes	-	2.50%	-
7	307	Wells and Springs	34,064	3.33%	1,134
8	308	Infiltration Galleries and Tunnels	-	6.67%	-
9	309	Supply Mains	-	2.00%	-
10	310	Power Generation Equipment	1,293	5.00%	65
11	311	Electric Pumping Equipment	92,122	12.50%	11,515
12	320	Water Treatment Equipment	-	3.33%	-
13	320.1	Water Treatment Equipment	-	3.33%	-
14	320.2	Chemical Solution Feeders	-	20.00%	-
15	330	Dist. Reservoirs & Standpipe	102,018	2.22%	2,265
16	330.1	Storage tanks	-	2.22%	-
17	330.2	Pressure Tanks	-	5.00%	-
18	331	Trans. and Dist. Mains	36,763	2.00%	735
19	333	Services	30,106	3.33%	1,003
20	334	Meters	8,244	8.33%	687
21	335	Hydrants	59,298	2.00%	1,186
22	336	Backflow Prevention Devices	-	6.67%	-
23	339	Other Plant and Misc. Equip.	23,472	6.67%	1,566
24	340	Office Furniture and Fixtures	-	6.67%	-
25	340.1	Computers and Software	-	20.00%	-
26	341	Transportation Equipment	-	20.00%	-
27	342	Stores Equipment	-	4.00%	-
28	343	Tools and Work Equipment	-	5.00%	-
29	344	Laboratory Equipment	-	10.00%	-
30	345	Power Operated Equipment	-	5.00%	-
31	346	Communications Equipment	5,881	10.00%	588
32	347	Miscellaneous Equipment	-	10.00%	-
33	348	Other Tangible Plant	64,621	10.00%	6,462
34		Rounding			
35	TOTAL WASTEWATER PLANT		$ 815,886		$ 37,874
	Less:				
36	Amortizations Of CIAC (RLM-2, Col. (C), Line 5)		$ (26,000)	4.7823%	(1,243)
37	TOTAL DEPRECIATION EXPENSE (Line 35 + Line 36)				$ 36,631
38	Test Year Depreciation Expense As Filed (Co. Sch. C-1)				36,631
39	Increase In Depreciation Expense (Line 37 - Line 37)				$ -
40	RUCO Adjustment (Line 39) (See RLM-7, Column (B), Line 25)				$ -

References: Column (A): RLM-4, Column (E)
Column (B): Company Schedule "C-2p1Depr"
Column (C): Column (A) X Column (B)

Northern Sunrise Water Company (Stand-Alone)
Docket No. W-02453A-09-0414 et al.
Test Year Ended March 31, 2009

EXPLANATION OF OPERATING INCOME ADJUSTMENT NO. 2
PROPERTY TAX COMPUTATION

LINE NO.	DESCRIPTION	REFERENCE	(A) AMOUNT	(B) TOTAL
	Calculation Of The Company's Full Cash Value:			
	Annual Operating Revenues:			
1	Adjusted Revenues In Year Ended December 2007	Sch. RLM-6, Col (C), Ln 4	$ 191,966	
2	Adjusted Revenues In Year Ended December 2007	Sch. RLM-6, Col (C), Ln 4	191,966	
3	Proposed Revenues	Sch. RLM-6, Col (E), Ln 4	359,250	
4	Total Three Year Operating Revenues	Sum Of Lines 1, 2 & 3	$ 743,183	
5	Average Annual Operating Revenues	Line 4 / 3	247,728	
6	Two Times Three Year Average Operating Revenues	Line 5 X 2		$ 495,455
	ADD:			
	10% Of Construction Work In Progress ("CWIP"):			
7	Test Year CWIP	Co. Sch. E-1	$ 92,936	
8	10% Of CWIP	Line 7 X 10%		$ 9,294
	SUBTRACT:			
	Transportation At Book Value:			
9	Original Cost Of Transportation Equipment	RLM-4, Col. (E), Ln 26	$ -	
10	Acc. Dep. Of Transportation Equipment	RLM-4, Col. (F), Ln 26	-	
11	Book Value Of Transportation Equipment	Line 9 + Line 10		$ -
12	Company's Full Cash Value ("FCV")	Sum Of Lines 6, 8 & 11		$ 504,749
	Calculation Of The Company's Tax Liability:			
	MULTIPLY:			
	FCV X Valuation Assessment Ratio X Property Tax Rates:			
13	Assessment Ratio	House Bill 2779	21.0%	
14	Assessed Value	Line 12 X Line 13	$ 105,997	
	Property Tax Rates:			
15	Primary Tax Rate - 2009 Tax Notice	Co. Sch. C-2, Pg 3	11.1932%	
16	Secondary Tax Rate - 2009 Tax Notice	Co. Sch. C-2, Pg 3	0.0000%	
17	Estimated Tax Rate Liability	Line 15 + Line 16	11.19%	
18	Company's Tax Liability - Based On Full Cash Value	Line 14 X Line 17		$ 11,865
19	Company's Tax on Parcels	Co. Sch. C-2, Pg 3		$ 91
20	Company's Total Tax Liability	Line 18 + Line 19		$ 11,956
21	Test Year Adjusted Property Tax Expense As Filing	Co. Sch. C-1, Line 25		13,128
22	Increase In Property Tax Expense	Line 20 - Line 21		$ (1,172)
23	RUCO Adjustment (See RLM-7, Column (C), Line 27)	Line 22		$ (1,172)

Northern Sunrise Water Company (Stand-Alone)
Docket No. W-02453A-09-0414 et al.
Test Year Ended March 31, 2009

EXPLANATION OF OPERATING INCOME ADJUSTMENT NO. 3
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LINE NO.	DESCRIPTION	REFERENCE	(A) TOTAL

Northern Sunrise Water Company (Stand-Alone)
Docket No. W-02453A-09-0414 et al.
Test Year Ended March 31, 2009

EXPLANATION OF OPERATING INCOME ADJUSTMENT NO. 4
CENTRAL OFFICE COST ALLOCATIONS

LINE NO.	DESCRIPTION	(A) COMPANY ACTUAL COSTS (CAN $)	(B) RUCO ALLOWED % OF COSTS	(C) RUCO ALLOWABLE COSTS	(D) RUCO UTILITIES % ALLOCATION	(E) RUCO ALLOCATED COSTS	(F) ALLOCATION % To BVWC	(G) RUCO ALLOCATED BVWC COSTS
1	Audit	$ 778,285	25.00%	$ 194,571	24.29%	$ 47,253	0.53%	$ 249
2	Tax Services	518,775	25.00%	129,694	24.29%	31,497	0.53%	166
3	Legal	159,053	25.00%	39,763	24.29%	9,657	0.53%	51
4	Other Professional Services	506,082	0.00%	-	24.29%	-	0.53%	-
5	Management Fee - Total	644,943	0.00%	-	24.29%	-	0.53%	-
6	Unit Holder Communications	156,766	0.00%	-	24.29%	-	0.53%	-
7	Trustee Fees	129,000	0.00%	-	24.29%	-	0.53%	-
8	Escrow & Transfer Agent Fees	96,138	0.00%	-	24.29%	-	0.53%	-
9	Rent	307,337	0.00%	-	24.29%	-	0.53%	-
10	Licenses/Fees & Permits	17,561	0.00%	-	24.29%	-	0.53%	-
11	Office Expenses	579,379	0.00%	-	24.29%	-	0.53%	-
12	Depreciation	211,653	25.00%	52,913	24.29%	12,850	0.53%	68
13	TOTAL	$ 4,104,971		$ 416,941		$ 101,257		$ 534
14	Company's APT Cost Allocation for Bella Vista in Canadian Dollars (Per RUCO DR 3.01)							$ 5,841
15	Conversion Factor to Convert Canadian Dollars to US Dollars per http://moneycentral.msn.com on April 1, 2010							0.99147
16	Company's APT Cost Allocation for Bella Vista in US Dollars							$ 5,792
17	RUCO's Allowed APT Cost Allocations in US Dollars							$ 529
18	RUCO's APT Cost Allocation Adjustment for Bella Vista in US Dollars							(5,262)
19	RUCO Adjustment (See RLM-7, Column (E))							(5,262)

References:
- Columns (A) (D) (F): Company Response To RUCO Data Requestion 3.01
- Column (B): Testimony, RUCO Witness Tim Coley
- Column (C): Sum Of Columns (A) & (B)
- Column (E): Column (C) X Column (D)
- Column (G): Column (E) X Column (F)

Northern Sunrise Water Company (Stand-Alone)
Docket No. W-02453A-09-0414 et al.
Test Year Ended March 31, 2009

EXPLANATION OF OPERATING INCOME ADJUSTMENT NO. 5
RATE CASE EXPENSE

LINE NO.	DESCRIPTION	(A) COMPANY ESTIMATE	(B) RUCO ADJM'T	(C) RUCO AS ADJ'D
1	Rate Case Expense Total	$ 250,000	$ (201,079)	$ 48,921
2	Normalization Period - 3 Years			3
3	RUCO Adjusted Rate Case Expense For Instant Case (Line 1 / 3 Years)			$ 16,307
4	Company Rate Case Expenses As Filed (Company Sch. C-2)			$ 25,000
5	RUCO Pro Forma Rate Case Expense (Lines 3 - 4)			$ (8,693)
6	RUCO Adjustment (Line 5) (See RLM-7, Column (F))			$ (8,693)

	RUCO CALCULATED RATE CASE EXPENSES	CONSOL'D TOTALS	BVWC ALONE	NSWC ALONE	SSWC ALONE
7	ACTUALS Invoices Per Fennemore Craig Total Costs Through February 2010	$ 59,206	$ 23,782	$ 17,633	$ 17,791
		ALLOCAT'N FACTOR	ALLOCAT'N FACTOR	ALLOCAT'N FACTOR	ALLOCAT'N FACTOR
	ESTIMATES Based On Estimate From Black Mountain Sewer Co.				
8	Remaining Costs For Company Witness Tom Borassa:	100.00%	55.56%	22.22%	22.22%
9	Rebuttal, Surrebuttal, Rejoinder And Trial Process;				
10	Final Schedules, Briefing, Evaluation Of ROO; Open Meeting Prep	$ 25,000	$ 13,889	$ 5,556	$ 5,556
			-	-	-
11	Expedited Hearing Transcript	5,000	2,778	1,111	1,111
			-	-	-
12	Fennemore Craig Estimated Remaining Costs		-	-	-
13	Rebuttal, Surrebuttal, Rejoinder And Trial Process;	45,000	25,000	10,000	10,000
14	Briefing	30,000	16,667	6,667	6,667
15	Reviewing ROO; Exceptions Open Meeting Prep	10,000	5,556	2,222	2,222
16	Post Decision Compliance And Filings	15,000	8,333	3,333	3,333
17	Per Diam Expenses	10,000	5,556	2,222	2,222
18	Rounding	794	441	176	176
19	RUCO ESTIMATED RATE CASE EXPENSES	$ 200,000	$ 102,000	$ 48,921	$ 49,079

Northern Sunrise Water Company (Stand-Alone)
Docket No. W-02453A-09-0414 et al.
Test Year Ended March 31, 2009

EXPLANATION OF OPERATING INCOME ADJUSTMENT NO. 6
INCOME TAX EXPENSE

LINE NO.	DESCRIPTION	(A) REFERENCE		(B) AMOUNT
	FEDERAL INCOME TAXES:			
1	Operating Income Before Taxes	Sch. RLM-6, Column (C), L29 + L27	$	(102,915)
	LESS:			
2	Arizona State Tax	Line 11		8,374
3	Interest Expense	Note (A) Line 20		(17,270)
4	Federal Taxable Income	Sum Of Lines 1 Thru 3	$	(111,811)
5	Federal Tax Rate	Sch. RLM-1, Pg 2, Col. (D), L34		15.00%
6	Federal Income Tax Expense	Line 4 X line 5	$	(16,772)
	STATE INCOME TAXES:			
7	Operating Income Before Taxes	Line 1	$	(102,915)
	LESS:			
8	Interest Expense	Note (A) Line 20		(17,270)
9	State Taxable Income	Sum Of Lines 7 & 8	$	(120,185)
10	State Tax Rate	Tax Rate		6.97%
11	State Income Tax Expense	Line 9 X Line 10	$	(8,374)
	TOTAL INCOME TAX EXPENSE:			
12	Federal Income Tax Expense	Line 6	$	(16,772)
13	State Income Tax Expense	Line 11		(8,374)
14	Total Income Tax Expense Per RUCO	Line12 + Line 13	$	(25,146)
15	Total Income Tax Expense Per Company (Per Company Sch. C-1)			(36,727)
16	Total Income Tax Adjustment	Line 14 - Line 15	$	11,580
17	RUCO Adjustment (See Sch. RLM-7, Column (K), L278)	Line16	$	11,580

NOTE (A):
Interest Synchronization:

18	Adjusted Rate Base (Sch. RLM-2, Col. (E), L15)	$	689,708
19	Weighted Cost Of Debt (Sch. RLM-14, Col. (F), L1)		2.50%
20	Interest Expense (L17 X L18)	$	17,270

Northern Sunrise Water Company (Stand-Alone)
Docket No. W-02453A-09-0414 et al.
Test Year Ended March 31, 2009

COST OF CAPITAL

LINE NO.	DESCRIPTION	(A) CAPITAL RATIO	(B) COST	(C) WEIGHTED COST RATE
1	Long-Term Debt	40.00%	6.26%	2.50%
2	Common Equity	60.00%	9.00%	5.40%
3	Total Capitalization	100.00%		
4	COST OF CAPITAL			7.90%

References:
Columns (A) Thru (F): See Testimony Of RUCO Witness William Rigsby

Southern Sunrise Water Company (Stand-Alone)
Docket No. W-02453A-09-0414 et al.
Test Year Ended March 31, 2009

TABLE OF CONTENTS TO RLM SCHEDULES

Southern Sunrise Water Company (Stand-Alone)
Docket No. W-02453A-09-0414 et al.
Test Year Ended March 31, 2009

REVENUE REQUIREMENT

LINE NO.	DESCRIPTION	(A) COMPANY OCRB/FVRB COST		(B) RUCO OCRB/FVRB COST	
1	Fair Value Rate Base	$	1,544,434	$	1,418,329
2	Adjusted Operating Income (Loss)	$	6,042	$	159,328
3	Current Rate Of Return (L2 / L1)		0.39%		11.23%
4	Required Operating Income (L5 X L1)	$	197,688	$	112,105
5	Required Rate Of Return On Fair Value Rate Base		12.80%		7.90%
6	Operating Income Deficiency (L4 - L2)	$	191,645	$	(47,224)
7	Gross Revenue Conversion Factor (RLM-1, Pg 2)		1.6128		1.3788
8	Increase In Gross Revenue Requirement (L7 X L6)	$	309,090	$	(65,111)
9	Adjusted Test Year Revenue	$	444,136	$	444,136
10	Proposed Annual Revenue (L8 + L9)	$	753,226	$	379,025
11	Required Percentage Increase In Revenue (L8 / L9)		69.59%		-14.66%
12	Rate Of Return On Common Equity		12.50%		9.00%

References:
Column (A): Company Schedules A-1 and C-1
Column (B): RUCO Schedule RLM-2, RLM-6, And RLM-14

Southern Sunrise Water Company (Stand-Alone)
Docket No. W-02453A-09-0414 et al.
Test Year Ended March 31, 2009

REVENUE REQUIREMENT - CONT'D
GROSS REVENUE CONVERSION FACTOR

LINE NO.	DESCRIPTION	(A)	(B)	(C)	(D)
	CALCULATION OF GROSS REVENUE CONVERSION FACTOR:				
1	Revenue	1.0000			
2	Combined Federal And State Tax Rate (L10)	(0.2747)			
3	Subtotal (L1 + L2)	0.7253			
4	**Revenue Conversion Factor** (L1 / L3)	1.3788			
	CALCULATION OF EFFECTIVE TAX RATE:				
5	Operating Income Before Taxes (Arizona Taxable Income)	100.0000%			
6	Arizona State Income Tax Rate	6.9680%			
7	Federal Taxable Income (L5 - L6)	93.0320%			
8	Applicable Federal Income Tax Rate (Col. (D), L34)	22.0397%			
9	Effective Federal Income Tax Rate (L7 X L8)	20.5040%			
10	Combined Federal And State Income Tax Rate (L6 + L9)	27.4720%			
11	Required Operating Income (Sch. RLM-1, Col. (B), L4)	$ 112,105			
12	Adj'd T.Y. Oper'g Inc. (Loss) (Sch. RLM-1, Col. (B), L2)	159,328			
13	Required Increase In Operating Income (L11 - L12)		$ (47,224)		
14	Income Taxes On Recommended Revenue (Col. (D), L31)	$ 29,011			
15	Income Taxes On Test Year Revenue (Col. (D), L32)	46,898			
16	Required Increase In Revenue To Provide For Income Taxes (L14 - L15)		$ (17,887)		
17	Total Required Increase In Revenue (L13 + L16)		$ (65,111)		
	CALCULATION OF INCOME TAX:			RUCO Recommended	
18	Revenue (Sch. RLM-1, Col. (B), L10)			$ 379,025	
19	Operating Expense Excluding Income Tax (RLM-6, Col. (E), L28 - L27)			(237,910)	
20	Synchronized Interest (Col. (C), L37)			(35,515)	
21	Arizona Taxable Income (L18 + L19 + L20)			$ 105,600	
22	Arizona State Income Tax Rate			6.9680%	
23	Arizona Income Tax (L21 X L22)				$ 7,358
24	Fed. Taxable Income (L21 - L23)			$ 98,242	
25	Fed. Tax On 1st Inc. Bracket ($1 - $50,000) @ 15%			$ 7,500	
26	Fed. Tax On 2nd Inc. Bracket ($50,001 - $75,000) @ 25%			6,250	
27	Fed. Tax On 3rd Inc. Bracket ($75,001 - $100,000) @ 34%			7,902	
28	Fed. Tax On 4th Inc. Bracket ($100,001 - $335,000) @ 39%			-	
29	Fed. Tax On 5th Inc. Bracket ($335,001 - $10M) @ 34%			-	
30	Total Federal Income Tax (L25 + L26 + L27 + L28 + L29)				$ 21,652
31	Combined Federal And State Income Tax (L23 + L30)				$ 29,011
32	Test Year Combined Income Tax, RUCO As Adjusted (RLM-6, Col. (C), L24)				$ 46,898
33	RUCO Adjustment (L31 - L32) (See RLM-6, Col. (D), L24)				$ (17,887)
34	Applicable Federal Income Tax Rate (Col. (D), L30 / Col. (C), L24)				22.04%
	CALCULATION OF INTEREST SYNCHRONIZATION:				
35	Rate Base (Sch. RLM-2, Col. (H), L15)			$ 1,418,329	
36	Weighted Avg. Cost Of Debt (Sch. RLM-14, Col. (F), L1)			2.50%	
37	Synchronized Interest (L35 X L36)			$ 35,515	

Southern Sunrise Water Company (Stand-Alone)
Docket No. W-02453A-09-0414 et al.
Test Year Ended March 31, 2009

SUMMARY OF ORIGINAL COST RATE BASE ADJUSTMENTS

LINE NO.	DESCRIPTION	(A) COMPANY AS FILED OCRB/FVRB	(B) RUCO ADJUSTMENTS	(C) RUCO AS ADJUSTED OCRB/FVRB
1	Gross Utility Plant In Service	$ 1,724,610	$ -	$ 1,724,610
2	Accumulated Depreciation	(105,733)	-	(105,733)
3	Net Utility Plant In Service (L1 + L2)	$ 1,618,877	$ -	$ 1,618,877
4	Advances In Aid Of Const.	$ -	$ -	$ -
5	Contribution In Aid Of Const.	$ (20,000)	$ -	$ (20,000)
6	Accumulated Amortization Of CIAC	15	-	15
7	NET CIAC (L5 + L6)	$ (19,985)	$ -	$ (19,985)
8	Customer Meter Deposits	$ (2,870)	$ -	$ (2,870)
9	Customer Hydrant Meter Deposits	$ -	$ -	$ -
10	Deferred Income Taxes & Credits	$ (51,588)	$ (126,105)	$ (177,693)
11	Unamortized Finance Charges	$ -	$ -	$ -
12	Deferred Regulatory Assets	$ -	$ -	$ -
13	Allowance For Working Capital	$ -	$ -	$ -
14	TOTAL RATE BASE (Sum L's 3, 4, 7, 8 Thru 12)	$ 1,544,434	$ (126,105)	$ 1,418,329

References:
Column (A): Company Schedule B-2, Page 1 And Workpapers Schedule E-1
Column (B): RLM-3, Columns (B) Thru (G)
Column (C): Column (A) + Column (B)

Southern Sunrise Water Company (Stand-Alone)
Docket No. W-02453A-09-0414 et al.
Test Year Ended March 31, 2009

SUMMARY OF ORIGINAL COST RATE BASE ADJUSTMENTS

LINE NO.	DESCRIPTION	(A) COMPANY AS FILED OCRB/FVRB	(B) ADJ # 1 POST TY PLT & ACC DEP	(C) ADJ # 2 CUSTOMER DEPOSITS	(D) ADJ # 3 DEFERRED INCOME TAX	(E) INTENT'NLY LEFT BLANK	(F) INTENT'NLY LEFT BLANK	(G) INTENT'NLY LEFT BLANK	(H) RUCO ADJ'TED OCRB/FVRB
1	Gross Utility Plant In Service	$ 1,724,610	$ -	$ -	$ -	$ -	$ -	$ -	$ 1,724,610
2	Accumulated Depreciation	(105,733)	-	-	-	-	-	-	(105,733)
3	Net Utility Plant In Service (L1 + L2)	$ 1,618,877	$ -	$ -	$ -	$ -	$ -	$ -	$ 1,618,877
4	Advances In Aid Of Const.	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -
5	Contribution In Aid Of Const.	$ (20,000)	$ -	$ -	$ -	$ -	$ -	$ -	$ (20,000)
6	Accumulated Amortization Of CIAC	15	-	-	-	-	-	-	15
7	NET CIAC (L5 + L6)	$ (19,985)	$ -	$ -	$ -	$ -	$ -	$ -	$ (19,985)
8	Customer Meter Deposits	$ (2,870)	$ -	$ -	$ -	$ -	$ -	$ -	$ (2,870)
9	Customer Hydrant Meter Deposits	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -
10	Deferred Income Taxes & Credits	$ (51,588)	$ -	$ -	$ (126,105)	$ -	$ -	$ -	$ (177,693)
11	Unamortized Finance Charges	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -
12	Deferred Regulatory Assets	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -
13	Allowance For Working Capital	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -
14	TOTAL RATE BASE (Sum L's 3, 4, 7, 8 Thru 12)	$ 1,544,434	$ -	$ -	$ (126,105)	$ -	$ -	$ -	$ 1,418,329

References:
Column (A): Company Schedule B-2, Page 1 And Workpapers Schedule E-1
Column (B): Adjustment No. 1 - RUCO Adjustment To Post Test-Year GPIS And Acc. Dep. (See Testimony and Schedule RLM-4)
Column (C): Adjustment No. 2 - RUCO Adjustment To Customer Deposits (See Testimony)
Column (D): Adjustment No. 3 - RUCO Adjustment To Deferred Income Taxes (See Testimony Of RUCO Witness Tim Coley and Schedule RLM-5)
Column (E): Intentionally Left Blank
Column (F): Intentionally Left Blank
Column (G): Intentionally Left Blank
Column (H): Sum Of Columns (A), (B), (C), (D), (E) & (F)

Southern Sunrise Water Company (Stand-Alone)
Docket No. W-02453A-09-0414 et al.
Test Year Ended March 31, 2009

POST TEST YEAR PLANT SCHEDULE
YEAR ENDED JUNE 30, 2008

LINE NO.	ACCT. NO.	ACCOUNT NAME	(A) RUCO T/Y PLANT AS ADJUSTED	(B) RUCO POST TY ADJM'TS PLANT ADDITIONS	(C) RUCO POST TY ADJM'TS PLANT RETIRMENTS	(D) TOTAL PLANT VALUE	(E) ACC. DEP.	(F) NET PLANT VALUE
1	301	Organization Cost	$ -	$ -	$ -	$ -	$ -	$ -
2	302	Franchise Cost	71	-	-	71	-	71
3	303	Land and Land Rights	336,686	-	-	336,686	-	336,686
4	304	Structures and Improvements	335,501	-	-	335,501	(7,855)	327,646
5	305	Collecting and Impounding Res.	-	-	-	-	-	-
6	306	Lake River and Other Intakes	-	-	-	-	-	-
7	307	Wells and Springs	133,969	-	-	133,969	(5,407)	128,562
8	308	Infiltration Galleries and Tunnels	-	-	-	-	-	-
9	309	Supply Mains	3,798	-	-	3,798	(104)	3,694
10	310	Power Generation Equipment	-	-	-	-	-	-
11	311	Electric Pumping Equipment	197,625	-	-	197,625	(33,360)	164,264
12	320	Water Treatment Equipment	-	-	-	-	-	-
13	320.1	Water Treatment Equipment	-	-	-	-	-	-
14	320.2	Chemical Solution Feeders	-	-	-	-	-	-
15	330	Dist. Reservoirs & Standpipe	263,512	-	-	263,512	(8,546)	254,966
16	330.1	Storage tanks	-	-	-	-	-	-
17	330.2	Pressure Tanks	-	-	-	-	-	-
18	331	Trans. and Dist. Mains	85,380	-	-	85,380	(3,415)	81,965
19	333	Services	70,365	-	-	70,365	(2,248)	68,117
20	334	Meters	18,257	-	-	18,257	(1,266)	16,992
21	335	Hydrants	18,416	-	-	18,416	(379)	18,036
22	336	Backflow Prevention Devices	-	-	-	-	-	-
23	339	Other Plant and Misc. Equip.	21,516	-	-	21,516	(1,701)	19,815
24	340	Office Furniture and Fixtures	-	-	-	-	-	-
25	340.1	Computers and Software	-	-	-	-	-	-
26	341	Transportation Equipment	-	-	-	-	-	-
27	342	Stores Equipment	-	-	-	-	-	-
28	343	Tools and Work Equipment	270	-	-	270	(6)	264
29	344	Laboratory Equipment	-	-	-	-	-	-
30	345	Power Operated Equipment	-	-	-	-	-	-
31	346	Communications Equipment	3,379	-	-	3,379	(253)	3,125
32	347	Miscellaneous Equipment	-	-	-	-	-	-
33	348	Other Tangible Plant	235,381	-	-	235,381	(41,192)	194,189
34		Rounding	485			485	-	485
		0						
35	TOTAL WASTEWATER PLANT		$ 1,724,610	$ -	$ -	$ 1,724,610	$ (105,733)	$ 1,618,877
36	Company As Filed					1,724,610	$ (105,733)	
37	Difference					-	$ -	
38	RUCO Adjustment (Line 37) (See RLM-3, Column (B))					-	$ -	

References:
- Column (A): RUCO Workpapers RLM-4-A(1)
- Columns (B) (C): Testimony, RLM
- Column (D): Sum Of Columns (A), (B), & (C)
- Column (E): Sum Of WP RLM-4-A(1), Column (B) And RLM-4, Column (C)
- Column (F): Column (D) + Column (E)

Southern Sunrise Water Company (Stand-Alone)
Docket No. W-02453A-09-0414 et al.
Test Year Ended March 31, 2009

ACCUMULATED DEFERRED INCOME TAXES

LINE NO.	DESCRIPTION	(A) REFERENCE		(B) AMOUNT
	Deferred Income Taxes:			
1	Algonquin Accumulated Deferred Income Tax Assets	2008 Algonquin Annual Report	$	23,032,000
2	Algonquin Accumulated Deferred Income Tax Liabilities	2008 Algonquin Annual Report		(106,983,000)
3	Net Accumulated Deferred Income Tax Assets (Liabilities)	Line 1 + Line 2	$	(83,951,000)
4	Bella Vista Consolidated Allocation	Note (A)		1.5438%
5	Bella Vista Consolidated ADIT Liabilities Allocation	Line 3 X Line 4	$	(1,296,004)
6	Convert to US Dollars	Note (B)		0.9915
7	Bella Vista Consolidated Allocated ADIT Liabilites Balance	Line 5 X Line 6	$	(1,284,949)
8	Total Consolidated ADIT as Filed by Company	Company Schedule C-1		173,329
9	Decrease in Deferred Income Tax Assets	Line 7 - Line 8	$	(1,458,278)
10	Total Southern Sunrise Customer Count Factor	Per Company		0.0865
11	RUCO Adjustment (See RLM-3, Column (D), Line 10)	Line 9 X Line 10	$	(126,105)

NOTES:

12	(A)	Purchase Price of BVWC, NSWC and SSWC	Annual Report	$	15,100,000
13		Algonquin Total Assets	Annual Report	$	978,130,000
14		Ratio BVWC, NSWC & SSWC To APIF Total Assets	Line 12 / Line 13		1.5438%
15	(B)	Currency Conversion	moneycentral.com on 04/1/2010		0.9915

SUPPORTING SCHEDULES
2008 Algonquin Power Income Fund Annual Report

Southern Sunrise Water Company (Stand-Alone)
Docket No. W-02453A-09-0414 et al.
Test Year Ended March 31, 2009

OPERATING INCOME

LINE NO.	DESCRIPTION	(A) COMPANY AS FILED	(B) RUCO TEST YEAR ADJM'TS	(C) RUCO TEST YEAR AS ADJ'TED	(D) RUCO PROP'D CHANGES	(E) RUCO AS RECOMM'D
	Revenues:					
1	Flat Rate Revenues	$ 433,457	$ -	$ 433,457	$ (65,111)	$ 368,346
2	Misc. Service Revenues	-	-	-	-	-
3	Other WW Revenues	10,679	-	10,679	-	10,679
4	TOTAL OPERATING REVENUE	$ 444,136	$ -	$ 444,136	$ (65,111)	$ 379,025
	Operating Expenses:					
5	Salaries and Wages	$ -	$ -	$ -	$ -	$ -
6	Purchased Water	-	-	-	-	-
7	Purchased Power	32,354	-	32,354	-	32,354
8	Fuel for Power Production	-	-	-	-	-
9	Chemicals	1,265	-	1,265	-	1,265
10	Materials & Supplies	7,972	-	7,972	-	7,972
11	Outside Services	91	-	91	-	91
12	Outside Services- Legal	5,390	-	5,390	-	5,390
13	Outside Services- Other	179,427	(12,533)	166,895	-	166,895
14	Water Testing	5,592	-	5,592	-	5,592
15	Equipment Rental	-	-	-	-	-
16	Rents	-	-	-	-	-
17	Transportation Expenses	25,481	-	25,481	-	25,481
18	Insurance - General Liability	10,788	-	10,788	-	10,788
19	Insurance - Health and Life	-	-	-	-	-
20	Reg. Comm. Exp.	1,024	-	1,024	-	1,024
21	Reg. Comm. Exp. - Rate Case	41,667	(8,640)	33,026	-	33,026
22	Miscellaneous Expense	14,810	-	14,810	-	14,810
23	Bad Debt Expense	5,346	-	5,346	-	5,346
24	Depreciation Expense	76,419	-	76,419	-	76,419
25	Taxes Other Than Income	-	-	-	-	-
26	Property Taxes	26,765	(175,308)	(148,542)	-	(148,542)
27	Income Tax	3,703	43,195	46,898	(17,887)	29,011
28	TOTAL OPERATING EXPENSES	$ 438,094	$ (153,286)	$ 284,808	$ (17,887)	$ 266,921
29	OPERATING INCOME (LOSS)	$ 6,042		$ 159,328		$ 112,104

References:
Column (A): Company Schedule C-1
Column (B): RLM-7, Columns (B) Thru (H)
Column (C): Column (A) + Column (B)
Column (D): Revenue From RLM-1, Column (B), Line 8 And Income Tax From RLM-1, Column (B), Line 8 - Line 6
Column (E): Column (C) + Column (D)

Southern Sunrise Water Company (Stand-Alone)
Docket No. W-02453A-09-0414 et al.
Test Year Ended March 31, 2009

SUMMARY OF OPERATING INCOME ADJUSTMENTS
TEST YEAR AS FILED AND ADJUSTMENTS

LINE NO.	DESCRIPTION	(A) COMPANY AS FILED	(B) ADJ # 1 DEP. EXPENSE	(C) ADJ # 2 PROPERTY TAX	(D) ADJ # 3 MISC. EXPENSES	(E) ADJ # 4 CENTRAL OFFICE COST	(F) ADJ # 5 RATE CASE EXPENSES	(G) LEFT BLANK	(H) ADJ # 6 INCOME TAX	(I) RUCO AS ADJT'D
	Revenues:									
1	Flat Rate Revenues	$ 433,457	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ 433,457
2	Misc. Service Revenues	-	-	-	-	-	-	-	-	-
3	Other WW Revenues	10,679	-	-	-	-	-	-	-	10,679
4	TOTAL OPR'G REV.	$ 444,136	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ 444,136
	Operating Expenses:									
5	Salaries and Wages	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -
6	Purchased Water	-	-	-	-	-	-	-	-	-
7	Purchased Power	32,354	-	-	-	-	-	-	-	32,354
8	Fuel for Power Production	-	-	-	-	-	-	-	-	-
9	Chemicals	1,265	-	-	-	-	-	-	-	1,265
10	Materials & Supplies	7,972	-	-	-	-	-	-	-	7,972
11	Outside Services	91	-	-	-	-	-	-	-	91
12	Outside Services- Legal	5,390	-	-	-	-	-	-	-	5,390
13	Outside Services- Other	179,427	-	-	-	(12,533)	-	-	-	166,895
14	Water Testing	5,592	-	-	-	-	-	-	-	5,592
15	Equipment Rental	-	-	-	-	-	-	-	-	-
16	Rents	-	-	-	-	-	-	-	-	-
17	Transportation Expenses	25,481	-	-	-	-	-	-	-	25,481
18	Insurance - General Liability	10,788	-	-	-	-	-	-	-	10,788
19	Insurance - Health and Life	-	-	-	-	-	-	-	-	-
20	Reg. Comm. Exp.	1,024	-	-	-	-	-	-	-	1,024
21	Reg. Comm. Exp. - Rate Case	41,667	-	-	-	-	(8,640)	-	-	33,026
22	Miscellaneous Expense	14,810	-	-	-	-	-	-	-	14,810
23	Bad Debt Expense	5,346	-	-	-	-	-	-	-	5,346
24	Depreciation Expense	76,419	-	-	-	-	-	-	-	76,419
25	Taxes Other Than Income	-	-	-	-	-	-	-	-	-
26	Property Taxes	26,765	-	(175,308)	-	-	-	-	-	(148,542)
27	Income Tax	3,703	-	-	-	-	-	-	43,195	46,898
29	TOTAL OPR'G EXP.	$ 438,094	$ -	$ (175,308)	$ -	$ (12,533)	$ (8,640)	$ -	$ 43,195	$ 284,808
30	OPR'G INC. (LOSS)	$ 6,042								$ 159,328

References:
Column (A): Company Schedule C-1
Column (B): Testimony, RLM And Schedule RLM-8
Column (C): Testimony, RLM And Schedule RLM-9
Column (D): Testimony, RLM And Schedule RLM-10
Column (E): Testimony, TLC And Schedule RLM-11
Column (F): Testimony, RLM And Schedule RLM-12
Column (G): Intentionally Left Blank
Column (H): Testimony, RLM And Schedule RLM-13
Column (I): Sum Of Columns (A) Thru (H)

Southern Sunrise Water Company (Stand-Alone)
Docket No. W-02453A-09-0414 et al.
Test Year Ended March 31, 2009

EXPLANATION OF OPERATING INCOME ADJUSTMENT NO. 1
TEST YEAR DEPRECIATION EXPENSE

LINE NO.	ACCT. NO.	ACCOUNT NAME	(A) TOTAL PLANT VALUE	(B) APPROVED DEPRECIATION RATE	(C) TEST YEAR DEPRECIATION EXPENSE
1	301	Organization Cost	$ -	0.00%	$ -
2	302	Franchise Cost	71	0.00%	-
3	303	Land and Land Rights	336,686	0.00%	-
4	304	Structures and Improvements	335,501	3.33%	11,172
5	305	Collecting and Impounding Res.	-	2.50%	-
6	306	Lake River and Other Intakes	-	2.50%	-
7	307	Wells and Springs	133,969	3.33%	4,461
8	308	Infiltration Galleries and Tunnels	-	6.67%	-
9	309	Supply Mains	3,798	2.00%	76
10	310	Power Generation Equipment	-	5.00%	-
11	311	Electric Pumping Equipment	197,625	12.50%	24,703
12	320	Water Treatment Equipment	-	3.33%	-
13	320.1	Water Treatment Equipment	-	3.33%	-
14	320.2	Chemical Solution Feeders	-	20.00%	-
15	330	Dist. Reservoirs & Standpipe	263,512	2.22%	5,850
16	330.1	Storage tanks	-	2.22%	-
17	330.2	Pressure Tanks	-	5.00%	-
18	331	Trans. and Dist. Mains	85,380	2.00%	1,708
19	333	Services	70,365	3.33%	2,343
20	334	Meters	18,257	8.33%	1,521
21	335	Hydrants	18,416	2.00%	368
22	336	Backflow Prevention Devices	-	6.67%	-
23	339	Other Plant and Misc. Equip.	21,516	6.67%	1,435
24	340	Office Furniture and Fixtures	-	6.67%	-
25	340.1	Computers and Software	-	20.00%	-
26	341	Transportation Equipment	-	20.00%	-
27	342	Stores Equipment	-	4.00%	-
28	343	Tools and Work Equipment	270	5.00%	13
29	344	Laboratory Equipment	-	10.00%	-
30	345	Power Operated Equipment	-	5.00%	-
31	346	Communications Equipment	3,379	10.00%	338
32	347	Miscellaneous Equipment	-	10.00%	-
33	348	Other Tangible Plant	235,381	10.00%	23,538
34		Rounding	485		10
35	TOTAL WASTEWATER PLANT		$ 1,724,610		$ 77,537
	Less:				
36	Amortizations Of CIAC (RLM-2, Col. (C), Line 5)		$ (20,000)	5.59%	(1,117)
37	TOTAL DEPRECIATION EXPENSE (Line 35 + Line 36)				$ 76,419
38	Test Year Depreciation Expense As Filed (Co. Sch. C-1)				76,419
39	Increase In Depreciation Expense (Line 37 - Line 37)				$ -
40	RUCO Adjustment (Line 39) (See RLM-7, Column (B), Line 25)				$ -

References: Column (A): RLM-4, Column (E)
Column (B): Company Schedule "C-2p1Depr"
Column (C): Column (A) X Column (B)

Southern Sunrise Water Company (Stand-Alone)
Docket No. W-02453A-09-0414 et al.
Test Year Ended March 31, 2009

EXPLANATION OF OPERATING INCOME ADJUSTMENT NO. 2
PROPERTY TAX COMPUTATION

LINE NO.	DESCRIPTION	REFERENCE	(A) AMOUNT	(B) TOTAL
	Calculation Of The Company's Full Cash Value:			
	Annual Operating Revenues:			
1	Adjusted Revenues In Year Ended December 2007	Sch. RLM-6, Col (C), Ln 4	$ 444,136	
2	Adjusted Revenues In Year Ended December 2007	Sch. RLM-6, Col (C), Ln 4	444,136	
3	Proposed Revenues	Sch. RLM-6, Col (E), Ln 4	379,025	
4	Total Three Year Operating Revenues	Sum Of Lines 1, 2 & 3	$ 1,267,297	
5	Average Annual Operating Revenues	Line 4 / 3	422,432	
6	Two Times Three Year Average Operating Revenues	Line 5 X 2		$ 844,865
	ADD:			
	10% Of Construction Work In Progress ("CWIP"):			
7	Test Year CWIP	Co. Sch. E-1	$ 526,003	
8	10% Of CWIP	Line 7 X 10%		$ 52,600
	SUBTRACT:			
	Transportation At Book Value:			
9	Original Cost Of Transportation Equipment	RLM-4, Col. (E), Ln 26	$ -	
10	Acc. Dep. Of Transportation Equipment	RLM-4, Col. (F), Ln 26	-	
11	Book Value Of Transportation Equipment	Line 9 + Line 10		$ -
12	Company's Full Cash Value ("FCV")	Sum Of Lines 6, 8 & 11		$ 897,465
	Calculation Of The Company's Tax Liability:			
	MULTIPLY:			
	FCV X Valuation Assessment Ratio X Property Tax Rates:			
13	Assessment Ratio	House Bill 2779	21.0%	
14	Assessed Value	Line 12 X Line 13	$ 188,468	
	Property Tax Rates:			
15	Primary Tax Rate - 2009 Tax Notice	Co. Sch. C-2, Pg 3	9.8984%	
16	Secondary Tax Rate - 2009 Tax Notice	Co. Sch. C-2, Pg 3	0.0000%	
17	Estimated Tax Rate Liability	Line 15 + Line 16	9.90%	
18	Company's Tax Liability - Based On Full Cash Value	Line 14 X Line 17		$ 18,655
19	Company's Tax on Parcels	Co. Sch. C-2, Pg 3		$ 1,991
20	Company's Total Tax Liability	Line 18 + Line 19		$ 20,646
21	Test Year Adjusted Property Tax Expense As Filing	Co. Sch. C-1, Line 25		195,954
22	Increase In Property Tax Expense	Line 20 - Line 21		$ (175,308)
23	RUCO Adjustment (See RLM-7, Column (C), Line 27)	Line 22		$ (175,308)

EXPLANATION OF OPERATING INCOME ADJUSTMENT NO. 3
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LINE NO.	DESCRIPTION	REFERENCE	(A) TOTAL

Southern Sunrise Water Company (Stand-Alone)
Docket No. W-02453A-09-0414 et al.
Test Year Ended March 31, 2009

EXPLANATION OF OPERATING INCOME ADJUSTMENT NO. 4
CENTRAL OFFICE COST ALLOCATIONS

LINE NO.	DESCRIPTION	(A) COMPANY ACTUAL COSTS (CAN $)	(B) RUCO ALLOWED % OF COSTS	(C) RUCO ALLOWABLE COSTS	(D) RUCO UTILITIES % ALLOCATION	(E) RUCO ALLOCATED COSTS	(F) ALLOCATION % To BVWC	(G) RUCO ALLOCATED BVWC COSTS
1	Audit	$ 778,285	25.00%	$ 194,571	24.29%	$ 47,253	1.26%	$ 593
2	Tax Services	518,775	25.00%	129,694	24.29%	31,497	1.26%	396
3	Legal	159,053	25.00%	39,763	24.29%	9,657	1.26%	121
4	Other Professional Services	506,082	0.00%	-	24.29%	-	1.26%	-
5	Management Fee - Total	644,943	0.00%	-	24.29%	-	1.26%	-
6	Unit Holder Communications	156,766	0.00%	-	24.29%	-	1.26%	-
7	Trustee Fees	129,000	0.00%	-	24.29%	-	1.26%	-
8	Escrow & Transfer Agent Fees	96,138	0.00%	-	24.29%	-	1.26%	-
9	Rent	307,337	0.00%	-	24.29%	-	1.26%	-
10	Licenses/Fees & Permits	17,561	0.00%	-	24.29%	-	1.26%	-
11	Office Expenses	579,379	0.00%	-	24.29%	-	1.26%	-
12	Depreciation	211,653	25.00%	52,913	24.29%	12,850	1.26%	161
13	TOTAL	$ 4,104,971		$ 416,941		$ 101,257		$ 1,272
14	Company's APT Cost Allocation for Bella Vista in Canadian Dollars (Per RUCO DR 3.01)							$ 13,912
15	Conversion Factor to Convert Canadian Dollars to US Dollars per http://moneycentral.msn.com on April 1, 2010							0.99147
16	Company's APT Cost Allocation for Bella Vista in US Dollars							$ 13,794
17	RUCO's Allowed APT Cost Allocations in US Dollars							$ 1,261
18	RUCO's APT Cost Allocation Adjustment for Bella Vista in US Dollars							(12,533)
19	RUCO Adjustment (See RLM-7, Column (E))							(12,533)

References:
- Columns (A) (D) (F): Company Response To RUCO Data Requestion 3.01
- Column (B): Testimony, RUCO Witness Tim Coley
- Column (C): Sum Of Columns (A) & (B)
- Column (E): Column (C) X Column (D)
- Column (G): Column (E) X Column (F)

Southern Sunrise Water Company (Stand-Alone)
Docket No. W-02453A-09-0414 et al.
Test Year Ended March 31, 2009

EXPLANATION OF OPERATING INCOME ADJUSTMENT NO. 5
RATE CASE EXPENSE

LINE NO.	DESCRIPTION	(A) COMPANY ESTIMATE	(B) RUCO ADJM'T	(C) RUCO AS ADJ'D
1	Rate Case Expense Total	$ 250,000	$ (200,921)	$ 49,079
2	Normalization Period - 3 Years			3
3	RUCO Adjusted Rate Case Expense For Instant Case (Line 1 / 3 Years)			$ 16,360
4	Company Rate Case Expenses As Filed (Company Sch. C-2)			$ 25,000
5	RUCO Pro Forma Rate Case Expense (Lines 3 - 4)			$ (8,640)
6	RUCO Adjustment (Line 5) (See RLM-7, Column (F))			$ (8,640)

	RUCO CALCULATED RATE CASE EXPENSES	CONSOL'D TOTALS	BVWC ALONE	NSWC ALONE	SSWC ALONE
7	ACTUALS Invoices Per Fennemore Craig Total Costs Through February 2010	$ 59,206	$ 23,782	$ 17,633	$ 17,791
		ALLOCAT'N FACTOR	ALLOCAT'N FACTOR	ALLOCAT'N FACTOR	ALLOCAT'N FACTOR
	ESTIMATES Based On Estimate From Black Mountain Sewer Co.				
8	Remaining Costs For Company Witness Tom Borassa:	100.00%	55.56%	22.22%	22.22%
9	Rebuttal, Surrebuttal, Rejoinder And Trial Process;				
10	Final Schedules, Briefing, Evaluation Of ROO; Open Meeting Prep	$ 25,000	$ 13,889	$ 5,556	$ 5,556
			-	-	-
11	Expedited Hearing Transcript	5,000	2,778	1,111	1,111
			-	-	-
12	Fennemore Craig Estimated Remaining Costs		-	-	-
13	Rebuttal, Surrebuttal, Rejoinder And Trial Process;	45,000	25,000	10,000	10,000
14	Briefing	30,000	16,667	6,667	6,667
15	Reviewing ROO; Exceptions Open Meeting Prep	10,000	5,556	2,222	2,222
16	Post Decision Compliance And Filings	15,000	8,333	3,333	3,333
17	Per Diam Expenses	10,000	5,556	2,222	2,222
18	Rounding	794	441	176	176
19	RUCO ESTIMATED RATE CASE EXPENSES	$ 200,000	$ 102,000	$ 48,921	$ 49,079

Southern Sunrise Water Company (Stand-Alone)
Docket No. W-02453A-09-0414 et al.
Test Year Ended March 31, 2009

EXPLANATION OF OPERATING INCOME ADJUSTMENT NO. 6
INCOME TAX EXPENSE

LINE NO.	DESCRIPTION	(A) REFERENCE		(B) AMOUNT
	FEDERAL INCOME TAXES:			
1	Operating Income Before Taxes	Sch. RLM-6, Column (C), L29 + L27	$	206,226
	LESS:			
2	Arizona State Tax	Line 11		(11,895)
3	Interest Expense	Note (A) Line 20		(35,515)
4	Federal Taxable Income	Sum Of Lines 1 Thru 3	$	158,816
5	Federal Tax Rate	Sch. RLM-1, Pg 2, Col. (D), L34		22.04%
6	Federal Income Tax Expense	Line 4 X line 5	$	35,003
	STATE INCOME TAXES:			
7	Operating Income Before Taxes	Line 1	$	206,226
	LESS:			
8	Interest Expense	Note (A) Line 20		(35,515)
9	State Taxable Income	Sum Of Lines 7 & 8	$	170,711
10	State Tax Rate	Tax Rate		6.97%
11	State Income Tax Expense	Line 9 X Line 10	$	11,895
	TOTAL INCOME TAX EXPENSE:			
12	Federal Income Tax Expense	Line 6	$	35,003
13	State Income Tax Expense	Line 11		11,895
14	Total Income Tax Expense Per RUCO	Line12 + Line 13	$	46,898
15	Total Income Tax Expense Per Company (Per Company Sch. C-1)			3,703
16	Total Income Tax Adjustment	Line 14 - Line 15	$	43,195
17	RUCO Adjustment (See Sch. RLM-7, Column (K), L278)	Line16	$	43,195

NOTE (A):
Interest Synchronization:

LINE NO.	DESCRIPTION		AMOUNT
18	Adjusted Rate Base (Sch. RLM-2, Col. (E), L15)	$	1,418,329
19	Weighted Cost Of Debt (Sch. RLM-14, Col. (F), L1)		2.50%
20	Interest Expense (L17 X L18)	$	35,515

Southern Sunrise Water Company (Stand-Alone)
Docket No. W-02453A-09-0414 et al.
Test Year Ended March 31, 2009

COST OF CAPITAL

LINE NO.	DESCRIPTION	(A) CAPITAL RATIO	(B) COST	(C) WEIGHTED COST RATE
1	Long-Term Debt	40.00%	6.26%	2.50%
2	Common Equity	60.00%	9.00%	5.40%
3	Total Capitalization	100.00%		
4	COST OF CAPITAL			7.90%

References:
Columns (A) Thru (F): See Testimony Of RUCO Witness William Rigsby

RATE DESIGN

Bella Vista Water Company (Stand-Alone)
Docket No. W-02453A-09-0414 et al.
Test Year Ended March 31, 2009

TABLE OF CONTENTS TO RLM RATE DESIGN SCHEDULES

Bella Vista Water Company (Stand-Alone)
Docket No. W-02453A-09-0414 et al.
Test Year Ended March 31, 2009

Schedule RLM-RD1
Pages 1 Thru 3

RATE DESIGN AND PROOF OF RECOMMENDED REVENUE
PROPOSED REVENUE

LINE NO.	DESCRIPTION	(A) TEST YEAR ADJUSTED DETERMINANTS	(B) PROPOSED CHARGES & USAGE FEES	(C) PROPOSED REVENUES	(D) TOTAL REVENUES
	RESIDENTIAL CUSTOMERS				
1	5/8" X 3/4" Meter	88,860	$ 16.10	$ 1,430,318	$ 1,430,318
	Commodity Usage (In Thousands Of Gallons)				
2	First Tier -Breakover @ 4,000 Gals.	287,256	$ 1.3341	$ 383,225	
3	Second Tier - Breakover @ 10,000 Gals.	182,634	$ 1.9445	$ 355,125	
4	Third Tier - Over 10,000 Gals.	117,683	$ 2.2932	$ 269,876	
8	Total Commodity Usage And Revenue	587,573			$ 1,008,226
9	3/4" Meter	396	$ 25.35	$ 10,038	$ 10,038
	Commodity Usage (In Thousands Of Gallons)				
10	First Tier -Breakover @ 4,000 Gals.	1,224	$ 1.3341	$ 1,633	
11	Second Tier - Breakover @ 10,000 Gals.	534	$ 1.9445	$ 1,039	
12	Third Tier - Over 10,000 Gals.	39	$ 2.2932	$ 90	
16	Total Commodity Usage And Revenue	1,798			$ 2,762
17	1" Meter	96	$ 32.19	$ 3,090	$ 3,090
	Commodity Usage (In Thousands Of Gallons)				
18	First Tier -Breakover @ 10,000 Gals.	764	$ 1.2643	$ 965	
19	Second Tier - Over 10,000 Gals.	965	$ 1.6567	$ 1,599	
24	Total Commodity Usage And Revenue	1,728			$ 2,564
33	2" Meter	12	$ 103.01	$ 1,236	$ 1,236
	Commodity Usage (In Thousands Of Gallons)				
34	First Tier -Breakover @ 50,000 Gals.	129	$ 1.2643	$ 162	
35	Second Tier - Over 50,000 Gals.	-	$ 1.6567	$ -	
40	Total Commodity Usage And Revenue	129			$ 162
41	Total Residential Customer Bills	89,364		$ 1,444,682	
42	Total Residential Usage	591,227		$ 1,013,715	
43	TOTAL RESIDENTIAL CUSTOMERS REVENUE				$ 2,458,396
	COMMERCIAL CUSTOMERS				
44	5/8" X 3/4" Meter	4,572	$ 16.10	$ 73,592	$ 73,592
	Commodity Usage (In Thousands Of Gallons)				
45	First Tier -Breakover @ 4,000 Gals.	11,729	$ 1.2643	$ 14,829	
46	Second Tier - Over 4,000 Gals.	21,935	$ 1.6567	$ 36,339	
51	Total Commodity Usage And Revenue	33,663			$ 51,168
52	3/4" Meter	72	$ 25.35	$ 1,825	$ 1,825
	Commodity Usage (In Thousands Of Gallons)				
53	First Tier -Breakover @ 4,000 Gals.	237	$ 1.2643	$ 300	
54	Second Tier - Over 4,000 Gals.	732	$ 1.6567	$ 1,213	
59	Total Commodity Usage And Revenue	969			$ 1,513
60	1" Meter	1,668	$ 32.19	$ 53,697	$ 53,697
	Commodity Usage (In Thousands Of Gallons)				
61	First Tier -Breakover @ 10,000 Gals.	10,702	$ 1.2643	$ 13,531	
62	Second Tier - Over 10,000 Gals.	13,467	$ 1.6567	$ 22,311	
67	Total Commodity Usage And Revenue	24,170			$ 35,843
68	1.5" Meter	1,020	$ 60.37	$ 61,573	$ 61,573
	Commodity Usage (In Thousands Of Gallons)				
69	First Tier -Breakover @ 25,000 Gals.	17,687	$ 1.2643	$ 22,363	
70	Second Tier - Over 25,000 Gals.	28,480	$ 1.6567	$ 47,184	
75	Total Commodity Usage And Revenue	46,167			$ 69,546

Bella Vista Water Company (Stand-Alone)
Docket No. W-02453A-09-0414 et al.
Test Year Ended March 31, 2009

Schedule RLM-RD1
Pages 1 Thru 3

RATE DESIGN AND PROOF OF RECOMMENDED REVENUE
PROPOSED REVENUE

LINE NO.	DESCRIPTION	(A) TEST YEAR ADJUSTED DETERMINANTS		(B) PROPOSED CHARGES & USAGE FEES		(C) PROPOSED REVENUES		(D) TOTAL REVENUES
76	2" Meter	3,264	$	103.01	$	336,234	$	336,234
	Commodity Usage (In Thousands Of Gallons)							
77	First Tier -Breakover @ 50,000 Gals.	101,196	$	1.2643	$	127,946		
78	Second Tier - Over 50,000 Gals.	178,887	$	1.6567	$	296,364		
83	Total Commodity Usage And Revenue	280,083					$	424,310
	3" Meter	312	$	128.77	$	40,176	$	40,176
	Commodity Usage (In Thousands Of Gallons)							
	First Tier -Breakover @ 80,000 Gals.	20,136	$	1.2643	$	25,458		
	Second Tier - Over 80,000 Gals.	31,283	$	1.6567	$	51,827		
	Total Commodity Usage And Revenue	51,419					$	77,285
	4" Meter	36	$	160.96	$	5,795	$	5,795
	Commodity Usage (In Thousands Of Gallons)							
	First Tier -Breakover @ 350,000 Gals.	7,922	$	1.2643	$	10,016		
	Second Tier - Over 350,000 Gals.	13,540	$	1.6567	$	22,432		
	Total Commodity Usage And Revenue	21,462					$	32,448
84	6" Meter	12	$	724.33	$	8,692	$	8,692
	Commodity Usage (In Thousands Of Gallons)							
85	First Tier -Breakover @ 450,000 Gals.	468	$	1.2643	$	592		
86	Second Tier - Over 450,000 Gals.	-	$	1.6567	$	-		
91	Total Commodity Usage And Revenue	468					$	592
92	8" Meter	12	$	1,158.93	$	13,907	$	13,907
	Commodity Usage (In Thousands Of Gallons)							
93	First Tier -Breakover @ 720,000 Gals.	31	$	1.2643	$	39		
94	Second Tier - Over 720,000 Gals.	-	$	1.6567	$	-		
99	Total Commodity Usage And Revenue	31					$	39
100	Total Commercial Customer Bills	10,968			$	595,492		
101	Total Commercial Usage	458,432			$	692,744		
102	TOTAL COMMERCIAL CUSTOMERS REVENUE						$	1,288,236
	HYDRANT CUSTOMERS							
103	3" Meter	168	$	128.77	$	21,633	$	21,633
	Commodity Usage (In Thousands Of Gallons)							
104	All Usage	5,094	$	2.2932	$	11,682		
110	Total Commodity Usage And Revenue	5,094					$	11,682
159	Total Hydrant Customer Bills	168						
160	Total Hydrant Usage	5,094						
161	TOTAL HYDRANT CUSTOMERS REVENUE						$	33,315
	FIRE SPRINKLER CUSTOMERS							
194	4" Meter	1,188	$	13.08	$	15,538	$	15,538
202	6" Meter	252	$	14.49	$	3,651	$	3,651
210	8" Meter	12	$	23.18	$	278	$	278
68	Total Fire Sprinkler Customer Bills	1,452						

Bella Vista Water Company (Stand-Alone)
Docket No. W-02453A-09-0414 et al.
Test Year Ended March 31, 2009

Schedule RLM-RD1
Pages 1 Thru 3

RATE DESIGN AND PROOF OF RECOMMENDED REVENUE
PROPOSED REVENUE

LINE NO.	DESCRIPTION	(A) TEST YEAR ADJUSTED DETERMINANTS	(B) PROPOSED CHARGES & USAGE FEES	(C) PROPOSED REVENUES	(D) TOTAL REVENUES
70	TOTAL FIRE SPRINKLER CUSTOMERS REVENUE				$ 19,467
189	**RUCO TOTAL PROPOSED REVENUE PER BILL COUNT**				$ 3,799,415
	Total Company Customer Bills	101,952			
	Total Company Usage	1,054,753			
190	TOTAL RESIDENTIAL REVENUE PER BILL COUNT				$ 2,458,396
191	TOTAL COMMERCIAL REVENUE PER BILL COUNT				1,288,236
192	TOTAL HYDRANT REVENUE PER BILL COUNT				33,315
194	TOTAL FIRE SPRINKLER REVENUE PER BILL COUNT				19,467
197	**RUCO TOTAL PROPOSED REVENUE PER BILL COUNT**				$ 3,799,415
198	Unreconciled Difference vs. Billed Revenues				2,245
200	Miscellaneous Revenues				125,141
200	**RUCO TOTAL REVENUE**				$ 3,926,801
201	**PROPOSED REVENUE PER RUCO SCHEDULE RLM-1**				$ 3,926,801
202	Difference				$ (0)
203	Percentage Difference				0.00%

Bella Vista Water Company (Stand-Alone)
Docket No. W-02453A-09-0414 et al.
Test Year Ended March 31, 2009

TYPICAL RESIDENTIAL BILL ANALYSIS

LINE NO.	DESCRIPTION				(A)	(B)	(C)	(D)	(E)	(F)
					PRESENT		COMPANY PROPOSED		RUCO PROPOSED	
	REVENUE ALLOCATION									
1	RESIDENTIAL				$ 2,164,639	63.66%	$ 2,819,405	64.70%	$ 2,458,396	64.70%
2	OTHER				1,235,833	36.34%	1,537,943	35.30%	1,341,018	35.30%
3	TOTAL				$ 3,400,472	100.00%	$ 4,357,348	100.00%	$ 3,799,415	100.00%
	ALLOCATION RATIOS									
4	FIX REVENUE				$ 1,723,095	50.67%	$ 2,386,903	54.78%	$ 2,081,274	54.78%
5	VARIABLE REVENUE				1,677,377	49.33%	1,970,445	45.22%	1,718,141	45.22%
6	TOTAL				$ 3,400,472	100.00%	$ 4,357,348	100.00%	$ 3,799,415	100.00%
	RESIDENTIAL (5/8" X 3/4") RATE DESIGN				PRESENT		COMPANY PROPOSED		RUCO PROPOSED	
					BVWC		STAND-ALONE		STAND-ALONE	
7	BASIC MONTHLY CHARGE				$ 15.00		$ 18.46		$ 16.10	
	COMMODITY CHARGE				PRESENT		COMPANY PROPOSED		RUCO PROPOSED	
	PRESENT		PROPOSED		BVWC		STAND-ALONE		STAND-ALONE	
		BVWC								
8	1st Tier - Breakover	5,000	1st Tier - Breakover	4,000	$ 0.9700		$ 1.5300		$ 1.3341	
9	2nd Tier - Breakove	25,000	2nd Tier - Breakover	10,000	$ 1.8900		$ 2.2300		$ 1.9445	
10	3rd Tier - Over	25,000	3rd Tier - Over	10,000	$ 2.4100		$ 2.6300		$ 2.2932	

TYPICAL RESIDENTIAL BILL ANALYSIS

LINE NO.	BELLA VISTA RESIDENTIAL (5/8" X 3/4") METER	(A) VARIABLE MONTHLY USAGE	(B) PERCENT AVERAGE USAGE OF 6,612	(C) PRESENT TOTAL MONTHLY COST	(D) RUCO MONTHLY COST	(E) RUCO MONTHLY INCREASE	(F) % MONTHLY INCREASE
	AVERAGE RESIDENTIAL BILL COMPARISONS COST OF WATER SERVICE AT DIFFERENT LEVELS OF USAGE WITH PERCENTAGE INCREASE IN BILL						
1		1,653	25.00%	$ 16.60	$ 18.30	$ 1.70	10.23%
2		3,306	50.00%	$ 18.21	$ 20.51	$ 2.30	12.63%
3		6,612	100.00%	$ 22.90	$ 26.51	$ 3.61	15.79%
4		9,918	150.00%	$ 29.14	$ 32.94	$ 3.79	13.02%
5		13,223	200.00%	$ 35.39	$ 39.37	$ 3.97	11.23%

LINE NO.	MEDIAN RESIDENTIAL BILL COMPARISONS COST OF WATER SERVICE AT DIFFERENT LEVELS OF USAGE WITH PERCENTAGE INCREASE IN BILL	VARIABLE MONTHLY USAGE	PERCENT MEDIAN USAGE OF 4,500	PRESENT TOTAL MONTHLY COST	RUCO MONTHLY COST	RUCO MONTHLY INCREASE	% MONTHLY INCREASE
6		1,125	25.00%	$ 16.09	$ 17.60	$ 1.51	9.36%
7		2,250	50.00%	$ 17.18	$ 19.10	$ 1.92	11.15%
8		4,500	100.00%	$ 19.37	$ 22.40	$ 3.04	15.70%
9		6,750	150.00%	$ 21.55	$ 26.78	$ 5.23	24.28%
10		9,000	200.00%	$ 23.73	$ 31.15	$ 7.42	31.29%

Northern Sunrise Water Company (Stand-Alone)
Docket No. W-02453A-09-0414 et al.
Test Year Ended March 31, 2009

TABLE OF CONTENTS TO RLM RATE DESIGN SCHEDULES

Northern Sunrise Water Company (Stand-Alone)
Docket No. W-02453A-09-0414 et al.
Test Year Ended March 31, 2009

Schedule RLM-RD1
Pages 1 Thru 3

RATE DESIGN AND PROOF OF RECOMMENDED REVENUE
PROPOSED REVENUE

LINE NO.	DESCRIPTION	(A) TEST YEAR ADJUSTED DETERMINANTS	(B) PROPOSED CHARGES & USAGE FEES	(C) PROPOSED REVENUES	(D) TOTAL REVENUES
	RESIDENTIAL CUSTOMERS				
1	5/8" X 3/4" Meter	4,116	60.34630245	$ 248,385	$ 248,385
	Commodity Usage (In Thousands Of Gallons)				
2	First Tier -Breakover @ 4,000 Gals.	11,901	$ 3.8902	$ 46,298	
3	Second Tier - Breakover @ 10,000 Gals.	7,596	$ 4.6907	$ 35,629	
4	Third Tier - Over 10,000 Gals.	4,174	$ 5.6112	$ 23,422	
8	Total Commodity Usage And Revenue	23,671			$ 105,349
9	3/4" Meter	12	$ 90.52	$ 1,086	$ 1,086
	Commodity Usage (In Thousands Of Gallons)				
10	First Tier -Breakover @ 4,000 Gals.	46	$ 3.8902	$ 177	
11	Second Tier - Breakover @ 10,000 Gals.	62	$ 4.6907	$ 288	
12	Third Tier - Over 10,000 Gals.	137	$ 5.6112	$ 769	
16	Total Commodity Usage And Revenue	244			$ 1,234
17	1" Meter	-	$ 150.87	$ -	$ -
	Commodity Usage (In Thousands Of Gallons)				
18	First Tier -Breakover @ 10,000 Gals.	-	$ 3.8902	$ -	
19	Second Tier - Over 10,000 Gals.	-	$ 4.6907	$ -	
24	Total Commodity Usage And Revenue	-			$ -
33	2" Meter	-	$ 482.77	$ -	$ -
	Commodity Usage (In Thousands Of Gallons)				
34	First Tier -Breakover @ 50,000 Gals.	-	$ 3.8902	$ -	
35	Second Tier - Over 50,000 Gals.	-	$ 4.6907	$ -	
40	Total Commodity Usage And Revenue	-			$ -
41	Total Residential Customer Bills	4,128		$ 249,472	
42	Total Residential Usage	23,915		$ 106,584	
43	TOTAL RESIDENTIAL CUSTOMERS REVENUE				$ 356,055
	COMMERCIAL CUSTOMERS				
44	5/8" X 3/4" Meter	-	$ 60.35	$ -	$ -
	Commodity Usage (In Thousands Of Gallons)				
45	First Tier -Breakover @ 4,000 Gals.	-	$ 3.8902	$ -	
46	Second Tier - Over 4,000 Gals.	-	$ 4.6907	$ -	
51	Total Commodity Usage And Revenue	-			$ -
52	3/4" Meter	-	$ 90.52	$ -	$ -
	Commodity Usage (In Thousands Of Gallons)				
53	First Tier -Breakover @ 4,000 Gals.	-	$ 3.8902	$ -	
54	Second Tier - Over 4,000 Gals.	-	$ 4.6907	$ -	
59	Total Commodity Usage And Revenue	-			$ -
60	1" Meter	-	$ 150.87	$ -	$ -
	Commodity Usage (In Thousands Of Gallons)				
61	First Tier -Breakover @ 10,000 Gals.	-	$ 3.8902	$ -	
62	Second Tier - Over 10,000 Gals.	-	$ 4.6907	$ -	
67	Total Commodity Usage And Revenue	-			$ -
68	1.5" Meter	-	$ 301.73	$ -	$ -
	Commodity Usage (In Thousands Of Gallons)				
69	First Tier -Breakover @ 25,000 Gals.	-	$ 3.8902	$ -	
70	Second Tier - Over 25,000 Gals.	-	$ 4.6907	$ -	
75	Total Commodity Usage And Revenue	-			$ -

Northern Sunrise Water Company (Stand-Alone)
Docket No. W-02453A-09-0414 et al.
Test Year Ended March 31, 2009

Schedule RLM-RD1
Pages 1 Thru 3

RATE DESIGN AND PROOF OF RECOMMENDED REVENUE
PROPOSED REVENUE

LINE NO.	DESCRIPTION	(A) TEST YEAR ADJUSTED DETERMINANTS	(B) PROPOSED CHARGES & USAGE FEES	(C) PROPOSED REVENUES	(D) TOTAL REVENUES
76	2" Meter	-	$ 482.77	$ -	$ -
	Commodity Usage (In Thousands Of Gallons)				
77	First Tier -Breakover @ 50,000 Gals.	-	$ 3.8902	$ -	
78	Second Tier - Over 50,000 Gals.	-	$ 4.6907	$ -	
83	Total Commodity Usage And Revenue	-			$ -
	3" Meter	-	$ 965.54	$ -	$ -
	Commodity Usage (In Thousands Of Gallons)				
	First Tier -Breakover @ 80,000 Gals.	-	$ 3.8902	$ -	
	Second Tier - Over 80,000 Gals.	-	$ 4.6907	$ -	
	Total Commodity Usage And Revenue	-			$ -
	4" Meter	-	$ 1,508.66	$ -	$ -
	Commodity Usage (In Thousands Of Gallons)				
	First Tier -Breakover @ 350,000 Gals.	-	$ 3.8902	$ -	
	Second Tier - Over 350,000 Gals.	-	$ 4.6907	$ -	
	Total Commodity Usage And Revenue	-			$ -
84	6" Meter	-	$ 3,017.32	$ -	$ -
	Commodity Usage (In Thousands Of Gallons)				
85	First Tier -Breakover @ 450,000 Gals.	-	$ 3.8902	$ -	
86	Second Tier - Over 450,000 Gals.	-	$ 4.6907	$ -	
91	Total Commodity Usage And Revenue	-			$ -
92	8" Meter	-	$ 4,827.70	$ -	$ -
	Commodity Usage (In Thousands Of Gallons)				
93	First Tier -Breakover @ 720,000 Gals.	-	$ 3.8902	$ -	
94	Second Tier - Over 720,000 Gals.	-	$ 4.6907	$ -	
99	Total Commodity Usage And Revenue	-			$ -
100	Total Commercial Customer Bills	-		$ -	
101	Total Commercial Usage	-		$ -	
102	TOTAL COMMERCIAL CUSTOMERS REVENUE				$ -
	HYDRANT CUSTOMERS				
103	3" Meter	-	$ -	$ -	$ -
	Commodity Usage (In Thousands Of Gallons)				
104	All Usage	-	$ -	$ -	
110	Total Commodity Usage And Revenue	-			$ -
159	Total Hydrant Customer Bills	-			
160	Total Hydrant Usage	-			
161	TOTAL HYDRANT CUSTOMERS REVENUE				$ -
	FIRE SPRINKLER CUSTOMERS				
194	4" Meter	-	$ -	$ -	$ -
202	6" Meter	-	$ -	$ -	$ -
210	8" Meter	-	$ -	$ -	$ -
68	Total Fire Sprinkler Customer Bills	-			

Northern Sunrise Water Company (Stand-Alone)
Docket No. W-02453A-09-0414 et al.
Test Year Ended March 31, 2009

Schedule RLM-RD1
Pages 1 Thru 3

RATE DESIGN AND PROOF OF RECOMMENDED REVENUE
PROPOSED REVENUE

LINE NO.	DESCRIPTION	(A) TEST YEAR ADJUSTED DETERMINANTS	(B) PROPOSED CHARGES & USAGE FEES	(C) PROPOSED REVENUES	(D) TOTAL REVENUES
70	TOTAL FIRE SPRINKLER CUSTOMERS REVENUE				$ -
189	**RUCO TOTAL PROPOSED REVENUE PER BILL COUNT**				$ 356,055
	Total Company Customer Bills	4,128			
	Total Company Usage	23,915			
190	TOTAL RESIDENTIAL REVENUE PER BILL COUNT				$ 356,055
191	TOTAL COMMERCIAL REVENUE PER BILL COUNT				-
192	TOTAL HYDRANT REVENUE PER BILL COUNT				-
194	TOTAL FIRE SPRINKLER REVENUE PER BILL COUNT				-
197	**RUCO TOTAL PROPOSED REVENUE PER BILL COUNT**				$ 356,055
198	Unreconciled Difference vs. Billed Revenues				(99)
200	Miscellaneous Revenues				3,294
200	**RUCO TOTAL REVENUE**				$ 359,250
201	**PROPOSED REVENUE PER RUCO SCHEDULE RLM-1**				$ 359,250
202	Difference				$ (0)
203	Percentage Difference				0.00%

TYPICAL RESIDENTIAL BILL ANALYSIS

LINE NO.	DESCRIPTION				(A)	(B)	(C)	(D)	(E)	(F)
					PRESENT		COMPANY PROPOSED		RUCO PROPOSED	
	REVENUE ALLOCATION									
1	RESIDENTIAL				$ 188,390	100.00%	$ 444,816	100.00%	$ 356,055	100.00%
2	OTHER				-	0.00%	-	0.00%	-	0.00%
3	TOTAL				$ 188,390	100.00%	$ 444,816	100.00%	$ 356,055	100.00%
	ALLOCATION RATIOS									
4	FIX REVENUE				$ 129,890	68.95%	$ 311,662	70.07%	$ 249,472	70.07%
5	VARIABLE REVENUE				58,500	31.05%	133,154	29.93%	106,584	29.93%
6	TOTAL				$ 188,390	100.00%	$ 444,816	100.00%	$ 356,055	100.00%
	RESIDENTIAL (5/8" X 3/4") RATE DESIGN				PRESENT		COMPANY PROPOSED		RUCO PROPOSED	
					NSWC		STAND-ALONE		STAND-ALONE	
7	BASIC MONTHLY CHARGE				$ 31.00		$ 75.39		$ 60.35	
	COMMODITY CHARGE				PRESENT		COMPANY PROPOSED		RUCO PROPOSED	
	PRESENT		PROPOSED		NSWC		STAND-ALONE		STAND-ALONE	
		NSWC								
8	1st Tier - Breakover	5,000	1st Tier - Breakover	4,000	$ 2.0000		$ 4.8600		$ 3.8902	
9	2nd Tier - Breakove	10,000	2nd Tier - Breakover	10,000	$ 2.7500		$ 5.8600		$ 4.6907	
10	3rd Tier - Over	10,000	3rd Tier - Over	10,000	$ 3.9000		$ 7.0100		$ 5.6112	

TYPICAL RESIDENTIAL BILL ANALYSIS

LINE NO.	NORTHERN SUNRISE RESIDENTIAL (5/8" X 3/4") METER	(A) VARIABLE MONTHLY USAGE	(B) PERCENT AVERAGE USAGE OF 5,755	(C) PRESENT TOTAL MONTHLY COST	(D) RUCO MONTHLY COST	(E) RUCO MONTHLY INCREASE	(F) % MONTHLY INCREASE
	AVERAGE RESIDENTIAL BILL COMPARISONS COST OF WATER SERVICE AT DIFFERENT LEVELS OF USAGE WITH PERCENTAGE INCREASE IN BILL						
1		1,439	25.00%	$ 33.88	$ 65.94	$ 32.07	94.65%
2		2,878	50.00%	$ 36.76	$ 71.54	$ 34.79	94.64%
3		5,755	100.00%	$ 43.08	$ 84.14	$ 41.06	95.33%
4		8,633	150.00%	$ 50.99	$ 97.64	$ 46.65	91.48%
5		11,510	200.00%	$ 74.39	$ 112.52	$ 38.14	51.26%

LINE NO.	MEDIAN RESIDENTIAL BILL COMPARISONS COST OF WATER SERVICE AT DIFFERENT LEVELS OF USAGE WITH PERCENTAGE INCREASE IN BILL	VARIABLE MONTHLY USAGE	PERCENT MEDIAN USAGE OF 4,500	PRESENT TOTAL MONTHLY COST	RUCO MONTHLY COST	RUCO MONTHLY INCREASE	% MONTHLY INCREASE
6		1,125	25.00%	$ 33.25	$ 64.72	$ 31.47	94.66%
7		2,250	50.00%	$ 35.50	$ 69.10	$ 33.60	94.65%
8		4,500	100.00%	$ 40.00	$ 78.25	$ 38.25	95.63%
9		6,750	150.00%	$ 32.06	$ 88.81	$ 56.74	176.98%
10		9,000	200.00%	$ 52.00	$ 99.36	$ 47.36	91.08%

Southern Sunrise Water Company (Stand-Alone)
Docket No. W-02453A-09-0414 et al.
Test Year Ended March 31, 2009

TABLE OF CONTENTS TO RLM RATE DESIGN SCHEDULES

Southern Sunrise Water Company (Stand-Alone)
Docket No. W-02453A-09-0414 et al.
Test Year Ended March 31, 2009

Schedule RLM-RD1
Pages 1 Thru 3

RATE DESIGN AND PROOF OF RECOMMENDED REVENUE
PROPOSED REVENUE

LINE NO.	DESCRIPTION	(A) TEST YEAR ADJUSTED DETERMINANTS	(B) PROPOSED CHARGES & USAGE FEES	(C) PROPOSED REVENUES	(D) TOTAL REVENUES
	RESIDENTIAL CUSTOMERS				
1	5/8" X 3/4" Meter	9,504	26.96235485	$ 256,250	$ 256,250
	Commodity Usage (In Thousands Of Gallons)				
2	First Tier -Breakover @ 4,000 Gals.	28,400	$ 1.7406	$ 49,435	
3	Second Tier - Breakover @ 10,000 Gals.	15,487	$ 2.1126	$ 32,718	
4	Third Tier - Over 10,000 Gals.	9,144	$ 2.6828	$ 24,532	
8	Total Commodity Usage And Revenue	53,032			$ 106,684
9	3/4" Meter	-	$ 40.45	$ -	$ -
	Commodity Usage (In Thousands Of Gallons)				
10	First Tier -Breakover @ 4,000 Gals.	-	$ 1.7406	$ -	
11	Second Tier - Breakover @ 10,000 Gals.	-	$ 2.1126	$ -	
12	Third Tier - Over 10,000 Gals.	-	$ 2.6828	$ -	
16	Total Commodity Usage And Revenue	-			$ -
17	1" Meter	-	$ 67.41	$ -	$ -
	Commodity Usage (In Thousands Of Gallons)				
18	First Tier -Breakover @ 10,000 Gals.	-	$ 1.7406	$ -	
19	Second Tier - Over 10,000 Gals.	-	$ 2.1126	$ -	
24	Total Commodity Usage And Revenue	-			$ -
33	2" Meter	-	$ 215.70	$ -	$ -
	Commodity Usage (In Thousands Of Gallons)				
34	First Tier -Breakover @ 50,000 Gals.	-	$ 1.7406	$ -	
35	Second Tier - Over 50,000 Gals.	-	$ 2.1126	$ -	
40	Total Commodity Usage And Revenue	-			$ -
41	Total Residential Customer Bills	9,504		$ 256,250	
42	Total Residential Usage	53,032		$ 106,684	
43	TOTAL RESIDENTIAL CUSTOMERS REVENUE				$ 362,934
	COMMERCIAL CUSTOMERS				
44	5/8" X 3/4" Meter	-	$ 26.96	$ -	$ -
	Commodity Usage (In Thousands Of Gallons)				
45	First Tier -Breakover @ 4,000 Gals.	-	$ 1.7406	$ -	
46	Second Tier - Over 4,000 Gals.	-	$ 2.1126	$ -	
51	Total Commodity Usage And Revenue	-			$ -
52	3/4" Meter	-	$ 40.45	$ -	$ -
	Commodity Usage (In Thousands Of Gallons)				
53	First Tier -Breakover @ 4,000 Gals.	-	$ 1.7406	$ -	
54	Second Tier - Over 4,000 Gals.	-	$ 2.1126	$ -	
59	Total Commodity Usage And Revenue	-			$ -
60	1" Meter	24	$ 67.41	$ 1,618	$ 1,618
	Commodity Usage (In Thousands Of Gallons)				
61	First Tier -Breakover @ 10,000 Gals.	119	$ 1.7406	$ 207	
62	Second Tier - Over 10,000 Gals.	-	$ 2.1126	$ -	
67	Total Commodity Usage And Revenue	119			$ 207
68	1.5" Meter	-	$ 134.81	$ -	$ -
	Commodity Usage (In Thousands Of Gallons)				
69	First Tier -Breakover @ 25,000 Gals.	-	$ 1.7406	$ -	
70	Second Tier - Over 25,000 Gals.	-	$ 2.1126	$ -	
75	Total Commodity Usage And Revenue	-			$ -

Southern Sunrise Water Company (Stand-Alone)
Docket No. W-02453A-09-0414 et al.
Test Year Ended March 31, 2009

Schedule RLM-RD1
Pages 1 Thru 3

RATE DESIGN AND PROOF OF RECOMMENDED REVENUE
PROPOSED REVENUE

LINE NO.	DESCRIPTION	(A) TEST YEAR ADJUSTED DETERMINANTS	(B) PROPOSED CHARGES & USAGE FEES	(C) PROPOSED REVENUES	(D) TOTAL REVENUES
76	2" Meter	12	$ 215.70	$ 2,588	$ 2,588
	Commodity Usage (In Thousands Of Gallons)				
77	First Tier -Breakover @ 50,000 Gals.	279	$ 1.7406	$ 485	
78	Second Tier - Over 50,000 Gals.	137	$ 2.1126	$ 289	
83	Total Commodity Usage And Revenue	415			$ 774
	3" Meter	-	$ 431.40	$ -	$ -
	Commodity Usage (In Thousands Of Gallons)				
	First Tier -Breakover @ 80,000 Gals.	-	$ 1.7406	$ -	
	Second Tier - Over 80,000 Gals.	-	$ 2.1126	$ -	
	Total Commodity Usage And Revenue	-			$ -
	4" Meter	-	$ 674.06	$ -	$ -
	Commodity Usage (In Thousands Of Gallons)				
	First Tier -Breakover @ 350,000 Gals.	-	$ 1.7406	$ -	
	Second Tier - Over 350,000 Gals.	-	$ 2.1126	$ -	
	Total Commodity Usage And Revenue	-			$ -
84	6" Meter	-	$ 1,348.12	$ -	$ -
	Commodity Usage (In Thousands Of Gallons)				
85	First Tier -Breakover @ 450,000 Gals.	-	$ 1.7406	$ -	
86	Second Tier - Over 450,000 Gals.	-	$ 2.1126	$ -	
91	Total Commodity Usage And Revenue	-			$ -
92	8" Meter	-	$ 2,156.99	$ -	$ -
	Commodity Usage (In Thousands Of Gallons)				
93	First Tier -Breakover @ 720,000 Gals.	-	$ 1.7406	$ -	
94	Second Tier - Over 720,000 Gals.	-	$ 2.1126	$ -	
99	Total Commodity Usage And Revenue	-			$ -
100	Total Commercial Customer Bills	36		$ 4,206	
101	Total Commercial Usage	534		$ 981	
102	TOTAL COMMERCIAL CUSTOMERS REVENUE				$ 5,187
	HYDRANT CUSTOMERS				
103	3" Meter	-	$ -	$ -	$ -
	Commodity Usage (In Thousands Of Gallons)				
104	All Usage	-	$ -	$ -	
110	Total Commodity Usage And Revenue	-			$ -
159	Total Hydrant Customer Bills	-			
160	Total Hydrant Usage	-			
161	TOTAL HYDRANT CUSTOMERS REVENUE				$ -
	FIRE SPRINKLER CUSTOMERS				
194	4" Meter	-	$ -	$ -	$ -
202	6" Meter	-	$ -	$ -	$ -
210	8" Meter	-	$ -	$ -	$ -
68	Total Fire Sprinkler Customer Bills	-			

Southern Sunrise Water Company (Stand-Alone)
Docket No. W-02453A-09-0414 et al.
Test Year Ended March 31, 2009

Schedule RLM-RD1
Pages 1 Thru 3

RATE DESIGN AND PROOF OF RECOMMENDED REVENUE
PROPOSED REVENUE

LINE NO.	DESCRIPTION	(A) TEST YEAR ADJUSTED DETERMINANTS	(B) PROPOSED CHARGES & USAGE FEES	(C) PROPOSED REVENUES	(D) TOTAL REVENUES
70	TOTAL FIRE SPRINKLER CUSTOMERS REVENUE				$ -
189	**RUCO TOTAL PROPOSED REVENUE PER BILL COUNT**				$ 368,122
	Total Company Customer Bills	9,540			
	Total Company Usage	53,566			
190	TOTAL RESIDENTIAL REVENUE PER BILL COUNT				$ 362,934
191	TOTAL COMMERCIAL REVENUE PER BILL COUNT				5,187
192	TOTAL HYDRANT REVENUE PER BILL COUNT				-
194	TOTAL FIRE SPRINKLER REVENUE PER BILL COUNT				-
197	**RUCO TOTAL PROPOSED REVENUE PER BILL COUNT**				$ 368,122
198	Unreconciled Difference vs. Billed Revenues				224
200	Miscellaneous Revenues				10,679
200	**RUCO TOTAL REVENUE**				$ 379,025
201	**PROPOSED REVENUE PER RUCO SCHEDULE RLM-1**				$ 379,025
202	Difference				$ (0)
203	Percentage Difference				0.00%

TYPICAL RESIDENTIAL BILL ANALYSIS

LINE NO.	DESCRIPTION				(A)	(B)	(C)	(D)	(E)	(F)
					PRESENT		COMPANY PROPOSED		RUCO PROPOSED	
	REVENUE ALLOCATION									
1	RESIDENTIAL				$ 426,488	98.49%	$ 731,862	98.59%	$ 362,934	98.59%
2	OTHER				6,543	1.51%	10,461	1.41%	5,187	1.41%
3	TOTAL				$ 433,031	100.00%	$ 742,323	100.00%	$ 368,122	100.00%
	ALLOCATION RATIOS									
4	FIX REVENUE				$ 296,965	68.58%	$ 525,214	70.75%	$ 260,456	70.75%
5	VARIABLE REVENUE				136,066	31.42%	217,109	29.25%	107,665	29.25%
6	TOTAL				$ 433,031	100.00%	$ 742,323	100.00%	$ 368,122	100.00%
	RESIDENTIAL (5/8" X 3/4") RATE DESIGN				PRESENT		COMPANY PROPOSED		RUCO PROPOSED	
					SSWC		STAND-ALONE		STAND-ALONE	
7	BASIC MONTHLY CHARGE				$ 31.00		$ 54.37		$ 26.96	
	COMMODITY CHARGE				PRESENT		COMPANY PROPOSED		RUCO PROPOSED	
	PRESENT	SSWC	PROPOSED		SSWC		STAND-ALONE		STAND-ALONE	
8	1st Tier - Breakover	5,000	1st Tier - Breakover	4,000	$ 2.0000		$ 3.5100		$ 1.7406	
9	2nd Tier - Breakove	10,000	2nd Tier - Breakover	10,000	$ 2.7500		$ 4.2600		$ 2.1126	
10	3rd Tier - Over	10,000	3rd Tier - Over	10,000	$ 3.9000		$ 5.4100		$ 2.6828	

Southern Sunrise Water Company (Stand-Alone)
Docket No. W-02453A-09-0414 et al.
Test Year Ended March 31, 2009

TYPICAL RESIDENTIAL BILL ANALYSIS

LINE NO.	SOUTHERN SUNRISE RESIDENTIAL (5/8" X 3/4") METER	(A) VARIABLE MONTHLY USAGE	(B) PERCENT AVERAGE USAGE OF 5,581	(C) PRESENT TOTAL MONTHLY COST	(D) RUCO MONTHLY COST	(E) RUCO MONTHLY INCREASE	(F) % MONTHLY INCREASE
	AVERAGE RESIDENTIAL BILL COMPARISONS COST OF WATER SERVICE AT DIFFERENT LEVELS OF USAGE WITH PERCENTAGE INCREASE IN BILL						
1		1,395	25.00%	$ 33.79	$ 29.39	$ (4.40)	-13.02%
2		2,791	50.00%	$ 36.58	$ 31.82	$ (4.76)	-13.02%
3		5,581	100.00%	$ 42.60	$ 37.26	$ (5.33)	-12.52%
4		8,372	150.00%	$ 50.27	$ 43.16	$ (7.11)	-14.15%
5		11,162	200.00%	$ 57.95	$ 49.05	$ (8.89)	-15.34%

LINE NO.	MEDIAN RESIDENTIAL BILL COMPARISONS COST OF WATER SERVICE AT DIFFERENT LEVELS OF USAGE WITH PERCENTAGE INCREASE IN BILL	VARIABLE MONTHLY USAGE	PERCENT MEDIAN USAGE OF 4,500	PRESENT TOTAL MONTHLY COST	RUCO MONTHLY COST	RUCO MONTHLY INCREASE	% MONTHLY INCREASE
6		1,125	25.00%	$ 33.25	$ 28.92	$ (4.33)	-13.02%
7		2,250	50.00%	$ 35.50	$ 30.88	$ (4.62)	-13.02%
8		4,500	100.00%	$ 40.00	$ 34.98	$ (5.02)	-12.55%
9		6,750	150.00%	$ 44.50	$ 39.73	$ (4.77)	-10.71%
10		9,000	200.00%	$ 49.00	$ 44.49	$ (4.51)	-9.21%

Bella Vista Water Company (Consolidated)
Docket No. W-02453A-09-0414 et al.
Test Year Ended March 31, 2009

TABLE OF CONTENTS TO RLM RATE DESIGN SCHEDULES

Bella Vista Water Company (Consolidated)
Docket No. W-02453A-09-0414 et al.
Test Year Ended March 31, 2009

Schedule RLM-RD1
Pages 1 Thru 3

RATE DESIGN AND PROOF OF RECOMMENDED REVENUE
PROPOSED REVENUE

LINE NO.	DESCRIPTION	(A) TEST YEAR ADJUSTED DETERMINANTS	(B) PROPOSED CHARGES & USAGE FEES	(C) PROPOSED REVENUES	(D) TOTAL REVENUES
	RESIDENTIAL CUSTOMERS				
1	5/8" X 3/4" Meter	102,480	$ 15.47	$ 1,585,670	$ 1,585,670
	Commodity Usage (In Thousands Of Gallons)				
2	First Tier -Breakover @ 4,000 Gals.	327,557	$ 1.7059	$ 558,764	
3	Second Tier - Breakover @ 10,000 Gals.	205,717	$ 2.5693	$ 528,549	
4	Third Tier - Over 10,000 Gals.	131,001	$ 3.3464	$ 438,382	
8	Total Commodity Usage And Revenue	664,275			$ 1,525,695
9	3/4" Meter	408	$ 27.85	$ 11,365	$ 11,365
	Commodity Usage (In Thousands Of Gallons)				
10	First Tier -Breakover @ 4,000 Gals.	1,270	$ 1.7059	$ 2,166	
11	Second Tier - Breakover @ 10,000 Gals.	596	$ 2.5693	$ 1,530	
12	Third Tier - Over 10,000 Gals.	176	$ 3.3464	$ 590	
16	Total Commodity Usage And Revenue	2,042			$ 4,286
17	1" Meter	96	$ 36.75	$ 3,528	$ 3,528
	Commodity Usage (In Thousands Of Gallons)				
18	First Tier -Breakover @ 10,000 Gals.	764	$ 1.5245	$ 1,164	
19	Second Tier - Over 10,000 Gals.	965	$ 2.3880	$ 2,304	
24	Total Commodity Usage And Revenue	1,728			$ 3,468
33	2" Meter	12	$ 111.40	$ 1,337	$ 1,337
	Commodity Usage (In Thousands Of Gallons)				
34	First Tier -Breakover @ 50,000 Gals.	129	$ 1.5245	$ 196	
35	Second Tier - Over 50,000 Gals.	-	$ 2.3880	$ -	
40	Total Commodity Usage And Revenue	129			$ 196
41	Total Residential Customer Bills	102,996		$ 1,601,900	
42	Total Residential Usage	668,174		$ 1,533,646	
43	TOTAL RESIDENTIAL CUSTOMERS REVENUE				$ 3,135,545
	COMMERCIAL CUSTOMERS				
44	5/8" X 3/4" Meter	4,572	$ 15.47	$ 70,742	$ 70,742
	Commodity Usage (In Thousands Of Gallons)				
45	First Tier -Breakover @ 4,000 Gals.	11,729	$ 1.5245	$ 17,881	
46	Second Tier - Over 4,000 Gals.	21,935	$ 2.3880	$ 52,379	
51	Total Commodity Usage And Revenue	33,663			$ 70,260
52	3/4" Meter	72	$ 27.85	$ 2,006	$ 2,006
	Commodity Usage (In Thousands Of Gallons)				
53	First Tier -Breakover @ 4,000 Gals.	237	$ 1.5245	$ 361	
54	Second Tier - Over 4,000 Gals.	732	$ 2.3880	$ 1,749	
59	Total Commodity Usage And Revenue	969			$ 2,110
60	1" Meter	1,692	$ 36.75	$ 62,178	$ 62,178
	Commodity Usage (In Thousands Of Gallons)				
61	First Tier -Breakover @ 10,000 Gals.	10,821	$ 1.5245	$ 16,498	
62	Second Tier - Over 10,000 Gals.	13,467	$ 2.3880	$ 32,159	
67	Total Commodity Usage And Revenue	24,289			$ 48,657

Bella Vista Water Company (Consolidated)
Docket No. W-02453A-09-0414 et al.
Test Year Ended March 31, 2009

Schedule RLM-RD1
Pages 1 Thru 3

RATE DESIGN AND PROOF OF RECOMMENDED REVENUE
PROPOSED REVENUE

LINE NO.	DESCRIPTION	(A) TEST YEAR ADJUSTED DETERMINANTS	(B) PROPOSED CHARGES & USAGE FEES	(C) PROPOSED REVENUES	(D) TOTAL REVENUES
68	1.5" Meter	1,020	$ 61.89	$ 63,130	$ 63,130
	Commodity Usage (In Thousands Of Gallons)				
69	First Tier -Breakover @ 25,000 Gals.	17,687	$ 1.5245	$ 26,965	
70	Second Tier - Over 25,000 Gals.	28,480	$ 2.3880	$ 68,010	
75	Total Commodity Usage And Revenue	46,167			$ 94,975
76	2" Meter	3,276	$ 111.40	$ 364,953	$ 364,953
	Commodity Usage (In Thousands Of Gallons)				
77	First Tier -Breakover @ 50,000 Gals.	101,475	$ 1.5245	$ 154,701	
78	Second Tier - Over 50,000 Gals.	179,023	$ 2.3880	$ 427,504	
83	Total Commodity Usage And Revenue	280,498			$ 582,205
	3" Meter	312	$ 123.78	$ 38,621	$ 38,621
	Commodity Usage (In Thousands Of Gallons)				
	First Tier -Breakover @ 80,000 Gals.	20,136	$ 1.5245	$ 30,697	
	Second Tier - Over 80,000 Gals.	31,283	$ 2.3880	$ 74,703	
	Total Commodity Usage And Revenue	51,419			$ 105,400
	4" Meter	36	$ 154.73	$ 5,570	$ 5,570
	Commodity Usage (In Thousands Of Gallons)				
	First Tier -Breakover @ 350,000 Gals.	7,922	$ 1.5245	$ 12,078	
	Second Tier - Over 350,000 Gals.	13,540	$ 2.3880	$ 32,333	
	Total Commodity Usage And Revenue	21,462			$ 44,411
84	6" Meter	12	$ 851.01	$ 10,212	$ 10,212
	Commodity Usage (In Thousands Of Gallons)				
85	First Tier -Breakover @ 450,000 Gals.	468	$ 1.5245	$ 713	
86	Second Tier - Over 450,000 Gals.	-	$ 2.3880	$ -	
91	Total Commodity Usage And Revenue	468			$ 713
92	8" Meter	12	$ 1,361.62	$ 16,339	$ 16,339
	Commodity Usage (In Thousands Of Gallons)				
93	First Tier -Breakover @ 720,000 Gals.	31	$ 1.5245	$ 47	
94	Second Tier - Over 720,000 Gals.	-	$ 2.3880	$ -	
99	Total Commodity Usage And Revenue	31			$ 47
100	Total Commercial Customer Bills	11,004		$ 633,751	
101	Total Commercial Usage	458,966		$ 948,778	
102	TOTAL COMMERCIAL CUSTOMERS REVENUE				$ 1,582,529
	HYDRANT CUSTOMERS				
103	3" Meter	168	$ 123.78	$ 20,796	$ 20,796
	Commodity Usage (In Thousands Of Gallons)				
104	All Usage	5,094	$ 3.3464	$ 17,046	
110	Total Commodity Usage And Revenue	5,094			$ 17,046
159	Total Hydrant Customer Bills	168			
160	Total Hydrant Usage	5,094			
161	TOTAL HYDRANT CUSTOMERS REVENUE				$ 37,842

Bella Vista Water Company (Consolidated)
Docket No. W-02453A-09-0414 et al.
Test Year Ended March 31, 2009

Schedule RLM-RD1
Pages 1 Thru 3

RATE DESIGN AND PROOF OF RECOMMENDED REVENUE
PROPOSED REVENUE

LINE NO.	DESCRIPTION	(A) TEST YEAR ADJUSTED DETERMINANTS	(B) PROPOSED CHARGES & USAGE FEES	(C) PROPOSED REVENUES	(D) TOTAL REVENUES
	FIRE SPRINKLER CUSTOMERS				
194	4" Meter	1,188	15.00	$ 17,820	$ 17,820
202	6" Meter	252	17.02	$ 4,289	$ 4,289
210	8" Meter	12	27.23	$ 327	$ 327
68	Total Fire Sprinkler Customer Bills	1,452			
70	TOTAL FIRE SPRINKLER CUSTOMERS REVENUE				$ 22,436
189	**RUCO TOTAL PROPOSED REVENUE PER BILL COUNT**				$ 4,778,352
	Total Company Customer Bills	115,620			
	Total Company Usage	1,132,234			
190	TOTAL RESIDENTIAL REVENUE PER BILL COUNT				$ 3,135,545
191	TOTAL COMMERCIAL REVENUE PER BILL COUNT				1,582,529
192	TOTAL HYDRANT REVENUE PER BILL COUNT				37,842
194	TOTAL FIRE SPRINKLER REVENUE PER BILL COUNT				22,436
197	**RUCO TOTAL PROPOSED REVENUE PER BILL COUNT**				$ 4,778,352
198	Unreconciled Difference vs. Billed Revenues				2,148
200	Miscellaneous Revenues				139,114
200	**RUCO TOTAL REVENUE**				$ 4,919,614
201	**PROPOSED REVENUE PER RUCO SCHEDULE RLM-1**				$ 4,919,615
202	Difference				$ (0)
203	Percentage Difference				0.00%

TYPICAL RESIDENTIAL BILL ANALYSIS

LINE NO.	DESCRIPTION	(A) PRESENT	(B) PRESENT	(C) COMPANY PROPOSED	(D) COMPANY PROPOSED	(E) RUCO PROPOSED	(F) RUCO PROPOSED
	REVENUE ALLOCATION						
1	RESIDENTIAL	$ 2,771,302	69.02%	$ 3,631,427	65.73%	$ 3,135,545	65.62%
2	OTHER	1,243,988	30.98%	1,893,459	34.27%	1,642,807	34.38%
3	TOTAL	$ 4,015,290	100.00%	$ 5,524,886	100.00%	$ 4,778,352	100.00%
	ALLOCATION RATIOS						
4	FIX REVENUE	$ 2,158,470	53.76%	$ 2,634,057	47.68%	$ 2,278,882	47.69%
5	VARIABLE REVENUE	1,856,821	46.24%	2,890,829	52.32%	2,499,470	52.31%
6	TOTAL	$ 4,015,290	100.00%	$ 5,524,886	100.00%	$ 4,778,352	100.00%

RESIDENTIAL (5/8" X 3/4") RATE DESIGN

LINE NO.	DESCRIPTION	PRESENT BVWC	PRESENT NS & SS	COMPANY PROPOSED CONSOL'D	RUCO PROPOSED CONSOL'D
7	BASIC MONTHLY CHARGE	$ 15.00	$ 31.00	$ 17.92	$ 15.47

COMMODITY CHARGE

LINE NO.	PRESENT	BVWC	NS & SS	PROPOSED	CONSOL'D	PRESENT BVWC	PRESENT NS & SS	COMPANY PROPOSED CONSOL'D	RUCO PROPOSED CONSOL'D
8	1st Tier - Breakovei	5,000	5,000	1st Tier - Breakover	4,000	$ 0.9700	$ 2.0000	$ 1.9756	$ 1.7059
9	2nd Tier - Breakove	25,000	10,000	2nd Tier - Breakovei	10,000	$ 1.8900	$ 2.7500	$ 2.9756	$ 2.5693
10	3rd Tier - Over	25,000	10,000	3rd Tier - Over	10,000	$ 2.4100	$ 3.9000	$ 3.8756	$ 3.3464

TYPICAL RESIDENTIAL BILL ANALYSIS

LINE NO.	BELLA VISTA RESIDENTIAL (5/8" X 3/4") METER	(A) VARIABLE MONTHLY USAGE	(B) PERCENT AVERAGE USAGE OF 6,612	(C) PRESENT TOTAL MONTHLY COST	(D) RUCO MONTHLY COST	(E) RUCO MONTHLY INCREASE	(F) % MONTHLY INCREASE
	AVERAGE RESIDENTIAL BILL COMPARISONS COST OF WATER SERVICE AT DIFFERENT LEVELS OF USAGE WITH PERCENTAGE INCREASE IN BILL						
1		1,653	25.00%	$ 16.60	$ 18.29	$ 1.69	10.17%
2		3,306	50.00%	$ 18.21	$ 21.11	$ 2.91	15.96%
3		6,612	100.00%	$ 22.90	$ 29.01	$ 6.11	26.69%
4		9,918	150.00%	$ 29.14	$ 37.50	$ 8.36	28.67%
5		13,223	200.00%	$ 35.39	$ 45.99	$ 10.60	29.96%

LINE NO.	MEDIAN RESIDENTIAL BILL COMPARISONS COST OF WATER SERVICE AT DIFFERENT LEVELS OF USAGE WITH PERCENTAGE INCREASE IN BILL	VARIABLE MONTHLY USAGE	PERCENT MEDIAN USAGE OF 4,500	PRESENT TOTAL MONTHLY COST	RUCO MONTHLY COST	RUCO MONTHLY INCREASE	% MONTHLY INCREASE
6		1,125	25.00%	$ 16.09	$ 17.39	$ 1.30	8.08%
7		2,250	50.00%	$ 17.18	$ 19.31	$ 2.13	12.39%
8		4,500	100.00%	$ 19.37	$ 23.58	$ 4.22	21.77%
9		6,750	150.00%	$ 21.55	$ 29.36	$ 7.81	36.27%
10		9,000	200.00%	$ 23.73	$ 35.14	$ 11.41	48.09%

TYPICAL RESIDENTIAL BILL ANALYSIS

LINE NO.	NORTHERN SUNRISE RESIDENTIAL (5/8" X 3/4") METER	(A) VARIABLE MONTHLY USAGE	(B) PERCENT AVERAGE USAGE OF 5,755	(C) PRESENT TOTAL MONTHLY COST	(D) RUCO MONTHLY COST	(E) RUCO MONTHLY INCREASE	(F) % MONTHLY INCREASE
	AVERAGE RESIDENTIAL BILL COMPARISONS COST OF WATER SERVICE AT DIFFERENT LEVELS OF USAGE WITH PERCENTAGE INCREASE IN BILL						
1		1,439	25.00%	$ 33.88	$ 17.93	$ (15.95)	-47.08%
2		2,878	50.00%	$ 17.79	$ 20.38	$ 2.59	14.56%
3		5,755	100.00%	$ 43.08	$ 26.81	$ (16.27)	-37.77%
4		8,633	150.00%	$ 50.99	$ 34.20	$ (16.79)	-32.93%
5		11,511	200.00%	$ 74.39	$ 42.77	$ (31.62)	-42.51%

LINE NO.	MEDIAN RESIDENTIAL BILL COMPARISONS COST OF WATER SERVICE AT DIFFERENT LEVELS OF USAGE WITH PERCENTAGE INCREASE IN BILL	VARIABLE MONTHLY USAGE	PERCENT MEDIAN USAGE OF 4,500	PRESENT TOTAL MONTHLY COST	RUCO MONTHLY COST	RUCO MONTHLY INCREASE	% MONTHLY INCREASE
6		1,125	25.00%	$ 33.25	$ 17.39	$ (15.86)	-47.69%
7		2,250	50.00%	$ 35.50	$ 19.31	$ (16.19)	-45.60%
8		4,500	100.00%	$ 40.00	$ 23.58	$ (16.42)	-41.05%
9		6,750	150.00%	$ 32.06	$ 29.36	$ (2.70)	-8.42%
10		9,000	200.00%	$ 52.00	$ 35.14	$ (16.86)	-32.42%

TYPICAL RESIDENTIAL BILL ANALYSIS

LINE NO.	SOUTHERN SUNRISE RESIDENTIAL (5/8" X 3/4") METER	(A) VARIABLE MONTHLY USAGE	(B) PERCENT AVERAGE USAGE OF 5,581	(C) PRESENT TOTAL MONTHLY COST	(D) RUCO MONTHLY COST	(E) RUCO MONTHLY INCREASE	(F) % MONTHLY INCREASE
	AVERAGE RESIDENTIAL BILL COMPARISONS COST OF WATER SERVICE AT DIFFERENT LEVELS OF USAGE WITH PERCENTAGE INCREASE IN BILL						
1		1,395	25.00%	$ 33.79	$ 17.85	$ (15.94)	-47.17%
2		2,791	50.00%	$ 17.71	$ 20.23	$ 2.53	14.27%
3		5,581	100.00%	$ 42.60	$ 26.36	$ (16.24)	-38.12%
4		8,372	150.00%	$ 50.27	$ 33.53	$ (16.74)	-33.31%
5		11,162	200.00%	$ 73.03	$ 41.60	$ (31.43)	-43.04%

LINE NO.	MEDIAN RESIDENTIAL BILL COMPARISONS COST OF WATER SERVICE AT DIFFERENT LEVELS OF USAGE WITH PERCENTAGE INCREASE IN BILL	VARIABLE MONTHLY USAGE	PERCENT MEDIAN USAGE OF 3,500	PRESENT TOTAL MONTHLY COST	RUCO MONTHLY COST	RUCO MONTHLY INCREASE	% MONTHLY INCREASE
6		875	25.00%	$ 32.75	$ 16.97	$ (15.78)	-48.20%
7		1,750	50.00%	$ 34.50	$ 18.46	$ (16.04)	-46.50%
8		3,500	100.00%	$ 38.00	$ 21.44	$ (16.56)	-43.57%
9		5,250	150.00%	$ 27.94	$ 24.43	$ (3.51)	-12.56%
10		7,000	200.00%	$ 46.50	$ 27.41	$ (19.09)	-41.05%

BELLA VISTA WATER COMPANY, INC.

DOCKET NO. W-02465A-09-0411 ET AL.

SUPPLEMENTAL DIRECT TESTIMONY
(RATE CONSOLIDATION)

OF

JODI A. JERICH

ON BEHALF OF

THE

RESIDENTIAL UTILITY CONSUMER OFFICE

APRIL 23, 2010

TABLE OF CONTENTS

INTRODUCTION

Q. Please state your name, occupation and business address for the record.

A. My name is Jodi Jerich. I am the Director of the Arizona Residential Utility Consumer Office ("RUCO"). My business address is 1110 W. Washington Street, Suite 220, Phoenix, Arizona 85007.

Q. What is the purpose of your testimony?

A. The purpose of my testimony is to explain RUCO's position on rate consolidation in this docket.

RATE CONSOLIDATION

Q. What is "rate consolidation"?

A. Rate consolidation is also commonly known as "single tariff pricing." In addition, the terms "uniform rates," "standard tariff rates," "unified rates" and "rate equalization" are sometimes used. My testimony will refer to this concept as rate consolidation.

Rate consolidation is the use of a unified rate structure for multiple water utility systems that are owned and operated by a single utility, but that may not be contiguous or physically interconnected. Through rate consolidation, all customers of the utility pay the same rate for service, even though the individual systems providing service may vary in terms of the number of customers served, operating characteristics and stand-alone costs.

Q. Have you testified regarding RUCO's position on rate consolidation in other cases?

A. Yes. I provided such testimony in the pending Arizona Water rate case (Docket No. W-014457A-08-0440).

Q. What is RUCO's position on rate consolidation in this docket?

A. RUCO contends that separate rates for separate systems respect the principle of traditional cost of service ratemaking and ensure that those who use the utility services pay for them. However, if the Commission were to find that rate consolidation is in the public interest, then RUCO would not object to rate consolidation for the Bella Vista, Northern Sunrise and Southern Sunrise water systems ***in this particular docket***. As discussed later in this testimony, RUCO believes the Commission could find that the policies in support of rate consolidation outweigh those policies against rate consolidation as applied to the facts surrounding this case. With that said, RUCO would oppose any routine approval of rate consolidation proposals in the future and would encourage the Commission to review rate consolidation proposals on a case-by-case basis.

Q. Please explain Exhibit C attached to your testimony.

A. Exhibit C is a chart that compares the three companies' current rates and compares them to the stand-alone rates and consolidated rates under Liberty's revenue requirement and under RUCO's revenue requirement. In Column "E" I included a modified consolidated rate design proposal that attempts to mitigate the rate increase for the Bella Vista customers who are subsidizing the rate decrease for their neighbors in the Northern Sunrise and Southern Sunrise systems ("Option E"). I will discuss this chart in greater detail later on in my testimony.

Q. Why has RUCO opposed consolidation in the past?

A. Previously, most rate consolidation proposals have been limited to the consolidation of two systems – typically a large system and a small one. In 2004, both RUCO and Staff opposed Arizona Water's request to consolidate the commodity rates for the Apache Junction and Superior systems. At that time, Apache Junction had 16,093 customers and Superior had 1,288 customers. RUCO and Staff opposed this consolidation because of the traditional ratemaking principle that individual system rates should reflect their specific system costs (Decision No. 66849 at p. 28).

Q. Has the Commission rejected rate consolidation proposals in the past?

A. Yes. For example, the Commission rejected Arizona Water's proposal to consolidate the base rate and ACRM for the Sedona and Rimrock systems in its Northern Group (Decision No. 66400). Furthermore, the Commission has rejected other Arizona Water rate consolidation proposals. (See Decision No. 58120 at 33-34 and Decision No. 64282 at 20-21.)

Q. Has the Commission approved rate consolidation proposals in the past?

A. Yes. From past history, it appears that the Commission has been most persuaded to approve rate consolidation when two systems are either being physically interconnected or proximally located such that interconnection has been contemplated.

The Commission has approved Arizona Water Company's proposals for consolidation for ratemaking purposes of the Sedona and Valley Vista systems as well as the consolidation of the Apache Junction and Superior systems.[1]

In 1999, the Commission approved the merger and rate consolidation of Bella Vista Water and Nicksville Water (Decision No. 61730). The Commission found, "The merger of Nicksville into Bella Vista will result in cost savings from the elimination of duplicate books, records and reports and simplified

[1] "...we believe it is appropriate to allow the first step off consolidation at this time in order to recognize the interconnection of the systems and to minimize the "rate shock" that may otherwise be experienced by customers in the Superior system." (Decision No. 66849 at 28)

administration and the customers of both systems will benefit from interconnection." RUCO supported rate consolidation in this docket.

Finally, in 2006, the Commission approved the merger of the seven (7) McLain Water systems into two systems – Northern Sunrise Water and Southern Sunrise Water (Decision No. 68826). I will discuss the Commission's decision to consolidate these systems in further detail later on in my testimony.

Q. Does this history suggest that the Commission will look at rate consolidation on a case-by-case basis?

A. Yes. Every Order of the Commission that has approved any form of consolidation has been highly fact specific.

Q. What are the policy arguments in favor of rate consolidation?

A. In the pending Arizona Water rate case, I discussed the policies favoring rate consolidation at length. Included with my testimony in that case, I referenced a copy of a 1999 joint publication by the U.S. Environmental Protection Agency ("EPA") and the National Association of Regulatory Utility Commissioners ("NARUC"). I attach the same document to my testimony in this docket as Exhibit A.

Mr. Greg Sorenson references this same document in his Direct Testimony in support of rate consolidation in this docket.

The EPA-NARUC publication offers several arguments in support of rate consolidation. RUCO lists the arguments it finds most persuasive.

1. Mitigates rate shock to utility customers.
2. Lowers administrative costs to the utilities.
3. Provides incentives for utility regionalization and consolidation.
4. Lowers administrative cost to the commission.
5. Encourages larger utility companies to acquire small, struggling utilities.

Q. Does RUCO find any of these arguments persuasive?

A. Yes. RUCO finds rate consolidation a worthy public policy consideration in this case for all of the above reasons. RUCO is particularly persuaded by the fact that consolidated rates make it much easier for a large water utility to acquire a small, struggling water company.

According to the Commission's website, there are 288 Commission regulated water companies in Arizona. The majority of them are Class C, D, and E companies. Many of these companies are located in rural, remote areas.

"Larger utilities often are reluctant to consider acquiring smaller, nonviable systems unless reliable means of cost recovery can be identified and secured. An acquisition candidate often presents substantial infrastructure needs but its service community lacks the ability to pay for improvements through higher rates."[2] A consolidated rate schedule is "an incentive for larger water utilities to acquire small water systems that lack capacity because it makes it possible to spread costs over a larger service population and maintain more stable and affordable rates for customers of some smaller and more expensive systems."[3]

For example, in 2006, the Commission approved the sale of seven (7) small water systems (known collectively as "the McLain systems") to Liberty Water Resource subsidiaries, Northern Sunrise and Southern Sunrise Water Companies. (Decision No. 68826). While the Order found the McLain systems had a combined fair value rate base of $696,752.14, the Commission recognized the need to make capital improvements totaling $802,100.00, along with approving an acquisition fee of $300,000.

In an earlier Order to determine the rate base value of the McLain systems, the Commission noted that the systems were in "serious disrepair" and posed a "serious safety hazard". The systems were "plagued by numerous outages caused by well failures, line breaks, power outages, possible sabotage and demand exceeding supply. None of the McLain Water Systems were chlorinated, which was serious because the poor condition of the systems makes them prone to microbial contamination". (Decision No. 68412 at pp. 4-5). The Commission had already appointed an interim manager (Decision

[2] Id. at 28.
[3] Id. at vii.

No. 66241) and exerted its regulatory authority to find a willing buyer to take over these systems. Liberty was the only bidder for the systems.

The McLain system failure provides an important lesson. Many Arizonans—particularly those in rural Arizona—receive water utility service from small water companies. Small utilities face greater obstacles in the provision of water delivery service than their larger counterparts. Because they have fewer customers to spread costs, smaller systems have unique pressures to maintain capital and operating costs while providing quality water service. Smaller water systems are at risk of underperformance primarily because they simply are not large enough to achieve economies of scale. Additionally, smaller companies may not be able to attract equity investors or obtain debt on favorable terms as easily as large utilities. It is difficult for small companies to take advantage of any economies of scale and pass along the savings to their customers. Yet, customers of small water companies deserve the same quality of service that customers of large, more sophisticated water companies receive.

RUCO believes it is more likely that more companies would be willing to purchase struggling, non-compliant water utilities if the Commission were willing to consider – on a case-by-case basis – rate consolidation as a possible option.

As I testified in Arizona Water, and as Mr. Sorenson references in his testimony, RUCO believes all residential ratepayers throughout Arizona deserve clean, safe and reliable drinking water. However, the reality is that several small, rural water utilities are unable to provide it. According to the Arizona Department of Environmental Quality ("ADEQ"), numerous small water companies have struggled to meet water quality standards. For example, ADEQ currently has an enforcement case pending against McNeal Water (25 customers). East Slope (784 customers), Indiada (54 customers) and Antelope Run (140 customers) currently have outstanding Notices of Violations ("NOVs"). Furthermore, the following Commission-regulated utilities have either outstanding NOVs or have recently resolved NOVs: Winchester Heights (129 customers), Monte Vista (40 customers), Sonoita Valley (40 customers), and Ashcreek (91 customers and currently operated by an interim manager).

Q. Are any of these troubled systems near Bella Vista, Northern Sunrise and Southern Sunrise?

A. Yes. As Mr. Sorenson points out, three of the companies listed above, East Slope Water, Antelope Run and Indiada, are all located within five (5) miles from the Liberty systems. While Bella Vista does not signal any interest in the purchase of these companies at the present time, the Commission's ruling to merge Bella Vista, Northern Sunrise and Southern Sunrise and to provide consolidated rates in this docket may lead to future consideration for the acquisition of these troubled systems. As Mr. Sorenson testified, "Several of the surrounding water companies have recently experienced operational and financial issues. These may present an opportunity in the future for further consolidation into a consolidated BVWC entity." (Sorensen Direct at p. 5).

Q. Are there any other reasons RUCO finds consolidation persuasive?

A. In the Joint Application, the Companies assert "A regional water provider is better positioned to provide significant and sometimes rapid capital investment to address emergency situations that might threaten water quality." (Jt. App. at p. 3)

Small water companies have small operating incomes. Yet, some of their expenses cost the same as they do for large companies. For example, if a well pump breaks, a large utility has a greater cash flow to purchase a replacement. However, a small water company has to pay the same purchase price for that same well pump, but may not have the cash flow to pay for it.

Cerbat Water Company appropriately illustrates this point. Cerbat provides water service to 258 customers in Mohave County. Last October, the well pump for its only well broke resulting in a stage 4 curtailment because repairing the pump was a cost the utility could not absorb.

Q. What are the arguments in opposition to rate consolidation?

A. The EPA-NARUC publication also offers several arguments in opposition to rate consolidation. RUCO lists the arguments it finds most persuasive.

1. Conflicts with cost of service principles.
2. Provides subsidies to some high cost customers at the expense of other customers.
3. Distorts price signals.
4. Discourages water conservation.

Q. Are these important considerations for RUCO?

A. Absolutely. All four of these arguments are strong reasons to reject a proposal to consolidate rates. In most cases, RUCO has taken the position that "costs should be borne by the cost creator." Rate consolidation deviates from this tried and true maxim. RUCO believes that cost of service ratemaking should be the presumptive rule for the Commission. Only when the Commission can specifically identify public policies in support of rate consolidation should it approve a rate design the deviates from a cost of service.

In addition to cost of service concerns, rate consolidation can have the unfortunate, negative consequence of contradicting the Commission's important goal of water conservation. Rate consolidation is arguably "at odds with water conservation."[4] Water is not the same everywhere in the state. Different systems have different challenges with water quality or water quantity issues. Full rate consolidation ignores the harsh reality of the difficulty of delivery of adequate and safe water in certain areas in Arizona. By consolidating rates and allowing a district with high costs to enjoy subsidized rates, the Commission distorts the true price of water delivery service for those customers. By distorting the price signals, customers no longer have the incentive to use their water wisely. I will address this policy concern as it applies to this docket in greater detail further on in my testimony.

Another concern RUCO has with rate consolidation is that it eliminates the need to maintain books for individual systems. This could lead to the Company over-building a system or not maintaining prudent cost controls since the widespread sharing of these costs minimizes the rate increase. This may incent a Company to unnecessarily inflate its rate base.

> "If rates were to be consolidated, there would be no reason to maintain separate books and records for each of the [systems]...However, this loss of operation and financial data would destroy the ability to evaluate the effectiveness and efficiency of the Company's operation of the [systems]. As a result, the [public utility commission] would lose its ability to exercise regulatory oversight and control as it pertains to these systems."[5]

[4] Id. at 5.
[5] Id. at 8 citing Ernest Harwig, Direct Testimony before the New Hampshire Public Utilities Commission in DR 97-058, Pennichuck Water Works, Inc. (1997).

While RUCO finds significant concerns exist whenever a utility asks the Commission to consider a consolidated rate design, based on the unique set of facts before the Commission in this docket, RUCO finds the Commission could find that the policies in support of consolidation outweigh the policy considerations in opposition to consolidation.

Q. Did RUCO support rate consolidation in the pending Arizona Water rate case (Docket No. W-014457A-08-0440)?

A. RUCO testified in Arizona Water that it supports stand-alone rates. RUCO further testified that if the Commission finds that rate consolidation is in the public interest, then RUCO would not object to a consolidated rate design as illustrated by RUCO rate design "Option F."

In the Arizona Water case, "Option F" was a modified rate consolidation rate design. It provided a consolidated monthly minimum rate for all 17 districts. However, each district retained its own commodity rate based on that district's cost of service. Finally, "Option F" limited any rate increase for any district to no more than $5.00 for the average residential ratepayer. This served to mitigate the rate impact for those districts that would subsidize the high cost districts as well as to narrow the rate impact difference between the systems with a rate decrease and systems with a rate increase.

In that docket, RUCO believed its modified rate consolidation proposal was in the best interest of the ratepayers of Arizona Water if the Commission decided to deviate from stand-alone rates. First, RUCO testified that "Option F" avoided rate shock better than any of the other proposals. Second, "Option F" appealed to RUCO because it was a small step toward consolidation for such a large water company. Those, like RUCO, who are uncomfortable with completely leaving traditional cost of service principles could take some comfort that these principles would be preserved through the commodity rates. Third, separate commodity rates for the 17 widely diverse districts also send the proper price signals for water conservation. Fourth, "Option F" would require the Company to maintain separate books for each system to ensure that Staff, RUCO and others can review whether the Company is prudently incurring costs.

Q. Didn't Arizona Water object to RUCO's characterization of their rate design as "full" or "complete" rate consolidation?

A. Yes. Arizona Water opposed RUCO's modified rate consolidation proposal. Most notably, it objected to the retention of district-specific commodity rates.

Q. Does RUCO object to a fully consolidated rate design comprising a single monthly minimum rate as well as a consolidated commodity rate for all three districts <u>in this case</u>?

A. No. Not in this case.

Q. Well then, isn't RUCO's rationale in this case a departure from its reasoning in Arizona Water?

A. No, it isn't. Just as the Commission must evaluate consolidation proposals on a case-by-case basis, so must RUCO. In the case at hand, RUCO finds that the public policy concerns that compelled RUCO to object to a fully consolidated rate structure in Arizona Water are either not present in this matter or are substantially blunted. RUCO stands by its testimony in Arizona Water. However, I believe this docket is distinguishable.

Q. Please explain.

A. In Arizona Water, RUCO's first concern was that rate consolidation distorted price signals and conflicted with the Commission's established and wise goal of water conservation. In this instant case, this concern is virtually eliminated.

First, unlike Arizona Water's 17 districts which are located throughout the state, all three systems in this matter are located close to each other and share similar water delivery systems. As Mr. Sorensen notes, Bella Vista and Southern Sunrise are physically interconnected in at least one area. Northern Sunrise is only six miles away from Bella Vista. (Sorensen p. 5). Any challenges that Liberty has to deliver safe and reliable drinking water in these service areas apply equally to all three districts. In a sense, the "value" of the water is essentially the same for a customer in Bella Vista as it is for a customer in the Sunrise systems. This is different from the situation for

Arizona Water where RUCO argued that the "value" of the water delivered to the curtailment weary customers of Pinewood is different than that of the water delivered to other districts – such as Casa Grande.

Second, all three systems have nearly the same water consumption patterns for residential users. The average monthly consumption rates are:

Bella Vista	6,612 gallons
Northern Sunrise	5,755 gallons
Southern Sunrise	5,581 gallons

This consistent pattern of water consumption is vastly different from the consumption patterns of Arizona Water customers where Pinewood (Northern Group) had an average monthly usage of 2,407 compared to Bisbee (Eastern Group) that had an average monthly usage of 5,215, compared to White Tank (Western Group) that had an average monthly usage of 15,648.

Third, all three Liberty systems draw water from the same water source. Arizona Water, on the other hand, has systems spread throughout the state. Arizona Water provides water to its customers from different sources and had different challenges to its delivery of water for its customers.

Therefore, for the reasons detailed above, the concern RUCO had in Arizona Water that consolidation would distort price signals does not exist in this matter.

Q. Was that the only concern RUCO had in Arizona Water?

A. No. RUCO also spent its energy objecting to fully consolidated rates in Arizona Water because of RUCO's concern that under such a rate design Arizona Water would not have to maintain separate books for each of its systems. This would restrict Staff and RUCO from sufficiently investigating the Company's operating expenses and determining whether the Company was prudently maintaining its assets. Separate books, RUCO argued, prevented the Company from over building and unnecessarily inflating its rate base. RUCO relied on a New Hampshire Public Utilities Decision that addressed this concern. I attach this PUC Decision to my testimony as Exhibit B.

Q. Does RUCO have the same concern in this matter?

A. Not to the same degree as it has with Arizona Water. RUCO is able to more comfortably set aside this concern for three reasons:

1. The Bella Vista consolidation proposal is a much, much smaller undertaking than that proposed by Arizona Water. If granted, the Bella Vista merger would consolidate a Class B Utility with two Class C Utilities. Record keeping consolidation for the 17 systems in Arizona Water is vastly different than consolidation of record keeping for Liberty's 8,511 residential customers.
2. Bella Vista is a "regional" water provider with all of its customers located relatively near each other. Arizona

Water has systems located throughout the state. This regionalization helps RUCO believe that it would be very difficult for Liberty to over inflate its rate base with imprudent overbuilding.

3. Bella Vista has a progressive history of rate consolidation. Arizona Water has a limited consolidation history. This history of consolidation for Bella Vista (with Nicksville) and Northern and Southern Sunrise (the McLain systems) is more extensive and has not resulted in any known over-inflation of rate base. Prior consolidation of the Liberty systems has shown measurable benefits to the customers.

Q. If the Commission decides in favor of rate consolidation, should that be the end of the discussion relating to rate design?

A. No. In RUCO's opinion, a favorable rate consolidation proposal is one that has the least detrimental effect to the systems that are picking up costs for other systems at the initial stage of consolidation. Over time, rates will be stabilized and increases will be minimized by spreading the costs of all systems. However, the most obvious cost shift happens in the ***initial*** rate case when rate design shifts from cost of service to consolidated rates. Any effort to mitigate the impact of that shift is in the public interest.

In this case, if the Commission approves a consolidated rate design, Bella Vista ratepayers will pay a higher rate than they would if the Commission approves stand-alone rates for the three systems. Furthermore, the customers of Northern Sunrise and Southern Sunrise will go from a sizeable rate increase on a stand-alone basis to an appreciable rate decrease under the Company's consolidation proposal.[6] As RUCO expressed in Arizona Water, it is one thing for a system to endure a slightly larger rate increase in order to protect other ratepayers from the shock for an exorbitant rate increase. But it is another matter entirely if that increase is borne in order to reward the other system's ratepayers with an unearned decrease in rates! A primary goal of rate consolidation is to mitigate rate shock -- not to ***eliminate*** any responsibility for that system to cover its own costs.

Under consolidated rates, using RUCO's revenue requirement, and the Company's consolidation model, the average Bella Vista customer would pay an extra $2.50 so that the average Northern Sunrise customer would be rescued from a $41.06 increase. However, that extra cost to Bella Vista customers not only shields their neighbors from a rate increase but it provides the average Northern and Southern Sunrise ratepayers with an unearned benefit of monthly savings of over $16.00. In "Option E", RUCO proposes to take away the unearned savings in order to reduce the financial burden placed on Bella Vista customers.

[6] Under RUCO's revenue requirement, the average Southern Sunrise ratepayer would see a rate decrease under stand-alone rates as well as under consolidated rates.

RUCO understands that the Commission may not adopt the exact revenue requirement figure proposed by RUCO. "Option E" illustrates the idea that the average ratepayer in systems that initially benefit from the consolidation would either pay (1) the same amount as he pays under the current rates or (2) the amount he would pay under new stand-alone rates if those rates would result in a reduction in rates. In "Option E", RUCO takes its consolidated rates and modifies their effect in order to shield Bella Vista ratepayers from picking up too much of the costs for the Northern and Southern Sunrise systems. Using RUCO's revenue requirement, "Option E" reduces the rate increase to Bella Vista ratepayers without having the Northern or Southern Sunrise ratepayers experience an increase in their bill. Under "Option E," Northern and Southern Sunrise ratepayers do not receive the benefit of a rate decrease at the expense of the Bella Vista customers.

Q. How can you implement Option E while maintaining a consolidated rate?

A. You can apply a credit on Bella Vista customer bills and a surcharge on the Northern Sunrise customer bills. RUCO realizes that a separate line item indicating a "surcharge" could cause some confusion and make a customer believe their bill went up when, in actuality, the surcharge simply restores the bill to its current level and eliminates the unearned savings. However, RUCO maintains that mitigating rate shock should not result in an unfair and unearned savings at the expense of other ratepayers.

Q. Does your failure to discuss an issue raised by the parties constitute agreement therewith?

A. No.

Q. Does this conclude your testimony?

A. Yes.

Exhibit A

United States
Environmental Protection
Agency

Office of Water
Washington, DC 20460

EPA
September 1999

EPA

CONSOLIDATED WATER RATES: Issues and Practices in Single-Tariff Pricing

September 1999

A Joint Publication of the
U.S. Environmental Protection Agency and
the National Association of Regulatory
Utility Commissioners

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Acknowledgment and Disclaimer

This document is a collaborative effort of the United States Environmental Protection Agency (USEPA) and the National Association of Regulatory Utilities Commissioners (NARUC). USEPA is responsible for the implementation of Safe Drinking Water Act provisions. NARUC represents state public utility commissions that have jurisdiction for investor-owned and other water utilities.

This report does not constitute polices, positions, or views of the USEPA, NARUC, or NARUC-member commissions.

The report was prepared by Janice A. Beecher, Ph.D., Beecher Policy Research, Inc., who conducted an independent survey of commission staff members in 1996 on behalf of the staff of the Florida Public Service Commission and subsequent verifications and updates through contacts with the commissions.

Contents

Tables and Figures

Tables

Figures

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Consolidated Water Rates: Summary

Purpose

Consolidated rates or single-tariff pricing is the use of a unified rate structure for multiple water (or other) utility systems that are owned and operated by a single utility, but that may or may not be contiguous or physically interconnected. The purpose of this report is to provide policymakers and other stakeholders with an overview of consolidated ratemaking and an appreciation of the complex trade-offs involve in its implementation.

The report provides a review of historical, theoretical, and practical issues related to consolidated ratemaking, implementation data, and key decisions by the state public utility commissions. A detailed survey of state public utility commission staff regarding single-tariff pricing is presented. General commission policies are summarized, along with citations of specific regulatory decisions concerning single-tariff pricing.

How Consolidated Pricing Works

Under consolidated pricing, all customers of the corporate utility pay the same rate for the same service, even though the individual systems providing service may vary in terms of operating characteristics and stand-alone costs. In many respects, consolidated rates are the conceptual opposite of "zonal" or spatially differentiated rates.

Single-tariff pricing is used by many investor-owned water utilities, with the approval of state regulators, but it also can be implemented by publicly owned utilities. Single-tariff pricing can be an incentive for larger water utilities to acquire small water systems that lack capacity because it makes it possible to spread costs over a larger service population and maintain more stable and affordable rates for customers of some smaller and more expensive systems. Single-tariff pricing can be used by publicly owned or nonprofit water utilities that operate satellite systems, but few examples are readily available.

Unfortunately, the literature on utility ratemaking, which leans heavily toward the conditions and experiences of the energy and telecommunications industries, yields little theoretical insight or empirical evidence on the implications of single-tariff pricing. Much of the understanding of this issue is derived from case-specific regulatory proceedings. However, an analysis of historical and theoretical perspectives suggests that single-tariff pricing is not necessarily inconsistent with the prevailing principles of ratemaking.

The Tradeoffs

Single-tariff pricing is a provocative issue precisely because of the tradeoffs involved in its application, including possible tradeoffs among different types of efficiency. Single-tariff pricing might lessen some kinds of efficiency (such as those related to spatial allocation of costs and price signals to customers), while improving other kinds of efficiency (such as those related to management and innovation). Of particular importance, but hardest to gauge, is whether single-tariff pricing and related restructuring can lead to long-run efficiency improvements in the water industry. Water utilities and policymakers must consider and weigh the evidence and trade-offs prior to implementing or approving single-tariff pricing.

A variety of theoretical and practical arguments in favor and against the use of single-tariff pricing can be made. Single-tariff pricing tends to stabilize rates and revenues, mitigate rate shock, and make rates more affordable for the customers of the smallest and more expensive systems. While achieving certain capacity-development, affordability, and operation efficiency goals, however, single-tariff pricing also might trade a degree of economic efficiency by ignoring spatial differences in costs and diluting price signals. A 1996 survey of commission staff members identified several arguments in favor of and against single-tariff pricing were identified.

Summary of Select Arguments in Favor and Against Single-Tariff Pricing

Select Arguments in Favor of Single-Tariff Pricing	Select Arguments Against Single-Tariff Pricing
□ Mitigates rate shock to utility customers (17) □ Lowers administrative costs to the utilities (16) □ Provides incentives for utility regionalization and consolidation (15) □ Physical interconnection is not considered a prerequisite (13) □ Addresses small-system viability issues (13) □ Improves service affordability for customers (12) □ Provides ratemaking treatment similar to that for other utilities (10) □ Facilitates compliance with drinking water standards (9) □ Overall benefits outweigh overall costs (9) □ Promotes universal service for utility customers (8) □ Lowers administrative cost to the commission (8) □ Promotes ratepayer equity on a regional basis (6) □ Encourages investment in the water supply infrastructure (5) □ Promotes regional economic development (3) □ Encourages further private involvement in the water sector (2) □ Other: Can be consistent with cost-of-service principles (1) and found to be in the public interest (1)	□ Conflicts with cost-of-service principles (14) □ Provides subsidies to high-cost customers (12) □ Not acceptable to all affected customers (10) □ Considered inappropriate without physical interconnection (8) □ Distorts price signals to customers (7) □ Fails to account for variations in customer contributions (6) □ Justification has not been adequate in a specific case (or cases) (6) □ Discourages efficient water use and conservation (4) □ Encourages growth and development in high-cost areas (4) □ Undermines economic efficiency (3) □ Provides unnecessary incentives to utilities (2) □ Not acceptable to other agencies or governments (2) □ Insufficient statutory or regulatory basis or precedents (2) □ Overall costs outweigh overall benefits (2) □ Encourages overinvestment in infrastructure (1)

Source: Author's construct. See Tables E3 and E4. Numbers in parentheses represent number of mentions (out of 21 applicable survey responses).

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Source: Author's construct. See Tables E3 and E4. Numbers in parentheses represent number of mentions (out of 21 applicable survey responses).

State Commission Policies

The public utility commissions have provide the central forum in which single-tariff pricing has been evaluated. Single-tariff pricing is a relevant regulatory policy issue only for the thirty (30) state public utility commissions with jurisdiction for multi-system utilities. Given this context, a clear majority of affected state commissions have allowed regulated water utilities to implement single-tariff pricing (22 state commissions).

Based on the commission survey and subsequent updates, single-tariff pricing is generally accepted in eight (8) states. A few states (such as Connecticut, Pennsylvania, and Texas) have recognized single-tariff pricing as a policy tool. Staff members at seventeen (17) commissions characterized the policies of their commissions as "case-by-case," indicating that the single-tariff pricing must be justified for every specific application (even when the policy is "generally accepted"). Numerous exemplary decisions can be cited.

Summary of State Public Utility Commission Policies on Single-Tariff Pricing for Water Utilities

Commission Policy	State Commissions	
Generally Accepted (8)	Connecticut	Pennsylvania
	Missouri	South Carolina
	North Carolina	Texas
	Oregon	Washington
Case-By-Case (17)	Single-Tariff Pricing Has Been Approved (14)	
	Arizona	New Hampshire (d) (f)
	Delaware (a)	New York
	Florida	New Jersey (e) (f)
	Idaho (not an issue)	Ohio
	Illinois	Vermont
	Indiana (b) (f)	Virginia
	Massachusetts (c) (f)	West Virginia
	Single-Tariff Pricing Has Not Been Approved (3)	
	California (g)	
	Maryland (not an issue)	
	Mississippi (not an issue)	
Never Considered (5)	Iowa	Maine
	Kentucky	Wisconsin
	Louisiana	
Not Applicable – No Multi-System Water Utilities (15)	Alabama	Nevada
	Alaska	New Mexico
	Arkansas	Oklahoma
	Colorado	Rhode Island
	Hawaii	Tennessee
	Kansas	Utah
	Montana	Wyoming
	Nebraska	
No Jurisdiction for Water Utilities (6)	Georgia	North Dakota
	Michigan	South Dakota
	Minnesota	Washington, D.C.

Source: Author's construct. See Table 12 for notes.

Guide for Readers

1. **Introduction.** The introductory section defines consolidated ratemaking, discusses general advantages and disadvantages of this approach, and provides the policy and regulatory context in which rate consolidation is considered.

2. **Background.** This section contemplates single-tariff pricing in light of an historical perspective and the prevailing economic regulatory literature. The concept of spatially differentiated pricing (or "zonal rates") also is considered.

3. **Spatial Pricing and Ratemaking Theory.** Principles of ratemaking and tradeoffs among efficiency, equity, and other policy goals, are considered. Goals unique to the water industry are identified. The section also contrasts pricing in theory with pricing in practice.

4. **Structural Issues in the Water Industry.** This section identifies ways in which pricing policies will shape the structural character of the water industry and the future of small water systems.

5. **Cost Profile of the Water Industry.** This section considers the cost profile of the water industry, including the relevance of economies of scale, the challenge of maintaining affordable water service for consumers, and the means to enhancing water system capacity.

6. **Examples of Single Tariff Pricing.** Numerical illustrations of rate consolidation are provided here, including examples from two recent cases in Indiana and New Hampshire.

7. **Public Utility Commission Role.** The role of the state public utility commissions is reviewed in this section, with an emphasis on how commission policies will affect the structure of the industry through consolidation.

8. **Commission Survey.** Results of a 1996 survey of commission staff members are presented. Based on a database derived from the survey, this section also identifies the characteristics of utilities that have implemented consolidated rates.

9. **Arguments in Favor and Against Rate Consolidation.** Commission staff views about the advantages and disadvantages of single-tariff pricing are presented.

10. **Commission Policies on Rate Consolidation.** This final section summarizes commission policies on rate consolidation and provides an overview of several key cases, including regulatory decisions from West Virginia, Pennsylvania, Massachusetts, Florida, Illinois, New Jersey, Missouri, Indiana, New York, and Connecticut. This section also considers legal challenges to the authority of regulators to approve consolidated rates.

1. Introduction

Definition

Consolidated rates or single-tariff pricing is the use of a unified rate structure for multiple water (or other) utility systems that are owned and operated by a single utility, but that may or may not be contiguous systems or physically interconnected. Under a system of single-tariff pricing, all customers of the utility pay the same rate for service, even though the individual systems providing service may vary in terms of the number of customers served, operating characteristics, and stand-alone costs. Single-tariff pricing essentially allows for allocating the average costs of combined systems in the course of ratemaking. In addition to the term "consolidated rates," the terms "single-rate structure," "uniform rates," "standard-tariff rates," "unified rates," and "rate equalization" sometimes are used in connection with the concept of single-tariff pricing.[1] For the purposes of this report, the terms consolidated rates and single-tariff pricing are used interchangeably.

Single-tariff pricing *de*-emphasizes spatial distinctions in costs. One of the best examples of a single tariff across an expansive and multicentric "service territory" is the single rate used in the United States for first-class postage. Indeed, consolidated rates sometimes are called "postage-stamp" rates. Conventional wisdom holds that uniform postal rates historically facilitated the extension of service to rural areas and that they continue to serve the national interest, provide equity and accessibility, and lower transaction costs.[2]

Examples of uniform pricing also can be found in the other public utility sectors. Long-distance, cellular-phone, and cable television services typically are priced according to the single-tariff concept (although the same terminology might not be used). Historically, at least, energy prices were established for a regional enfranchised service territory, regardless of the physical proximity of customers to specific utility facilities.[3] The other public utility sectors generally price across larger regional territories than water utilities, although facilities in the other sectors tend to be physically interconnected through transmission and distribution networks.

Use of single-tariff pricing by U.S. water utilities continues to be debated in regulatory policy circles, although many states have approved consolidated rates for one or more jurisdictional utilities and a few states have actively promoted the use of single-tariff pricing. A very prominent example of single-tariff pricing in the water sector comes from "across the pond." All of Great Britain's privatized regional water and wastewater utilities,

[1] The concept of uniformity is useful, but the term "uniform rates" probably should be reserved for rate structures that do not vary usage (or volumetric) charges by quantities (or blocks) of water usage.
[2] For a provocative discussion of both sides of the issue, see Ronald H. Coase, "The Economics of Uniform Pricing Systems," *Manchester School of Economics and Social Studies* Vol. 15 (May 1947): 139-56.
[3] In the context of restructuring and partial deregulation, methods for aggregating customers, allocating costs, and setting prices are changing dramatically. Spatial considerations might become less important in some instances, as in the purchase of electricity from a far-away generating facility. But market forces might also tend to group customers with similar cost profiles and undermine the goals of cost averaging.

and most of the smaller water companies, impose uniform rates for measured (metered) service, for both household and nonhousehold customers. A summary of recent British water tariffs is provided later in this report.

Single-tariff pricing can be absolute, applicable to all of the systems comprising the water utility. However, utilities also sometimes establish rates for regional zones consisting of subsets of water systems within the larger service territory. Rate consolidation sometimes is used for water systems that are contiguous but not interconnected, as well as noncontiguous noninterconnected systems, based on various criteria. Partial rate consolidation can be a compromise between individualized tariffs and complete single-tariff pricing, or part of a phase-in plan leading ultimately to a single tariff for the entire utility and all of its service territories. Figures 1 through 4 provide simple illustrations of the basic issues involved in rate consolidation for water utilities. A glossary of terms appears in Appendix A of this report.

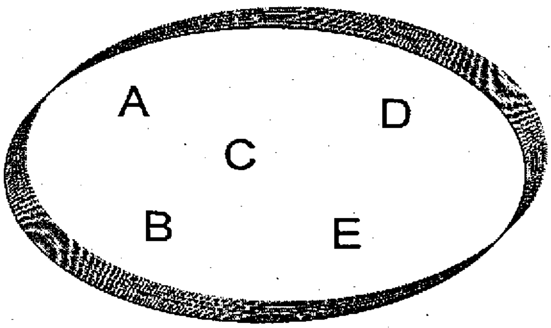

Figure 1. Water Systems without Physical Interconnection

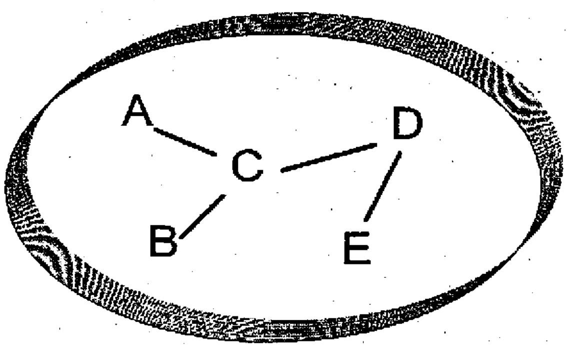

Figure 2. Water Systems with Physical Interconnection

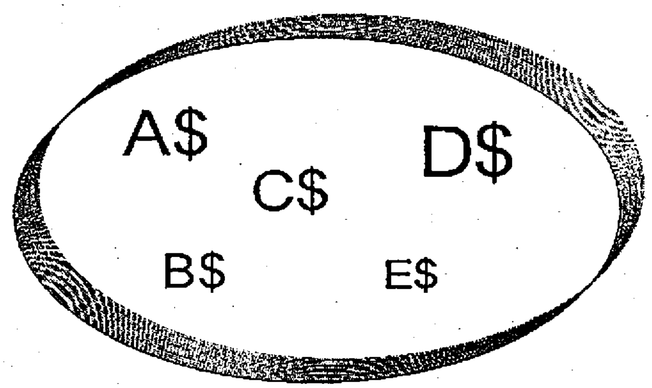

Figure 3. Water Systems with Stand-Alone Pricing

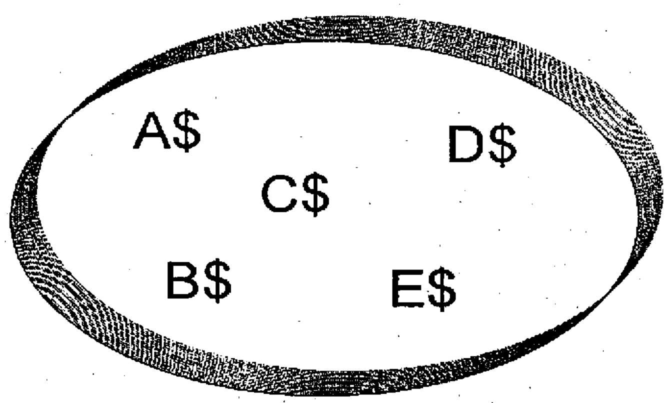

Figure 4. Water Systems with Consolidated Pricing

Key Advantages and Disadvantages

The primary advantages of single-tariff pricing are that it can lower administrative and regulatory costs, enhance financial capacity and capital deployment, achieve rate and revenue stability, and improve service affordability for customers of very small (or extremely small) water systems. The water industry's rising investment needs correlate with the interest in rate consolidation. A leading argument for single-tariff pricing made by multi-system water utilities is that each individual system eventually will require an infusion of capital for renovations and improvements; only the timing varies. Equalizing rates smoothes the effect of discrete cost spikes across systems and over time, much like insurance pooling. Single-tariff pricing also achieves equity to the extent that all customers of a given utility company pay the same price for comparable service.

Importantly, single-tariff pricing is a *pricing* strategy, not a *costing* strategy. Single-tariff pricing can appear to *lower* costs when in reality it simply *allocates* costs differently. In fact, one of the chief benefits of single-tariff pricing is that it greatly simplifies the allocation of common costs across separate facilities. Many water utilities believe that single-tariff pricing is more reflective of the consolidated cost of service. By itself, single-tariff pricing may not provide significant economies of scale because only the costs associated with the pricing process itself (including analytical, administrative, and regulatory costs) can be considered. Economies of scale in water production and management are achievable, irrespective of the rate structure implemented by the utility. Separating the cost side from the price side is crucial to understanding the true nature of the single-tariff pricing issue.

However, single-tariff pricing can lead to economies of scale in the water industry through secondary benefits. The secondary advantages are that single-tariff pricing can encourage industry consolidation, common management of smaller systems, and overall technical, financial, and managerial capacity. If regionalization *eventually* includes physical interconnection among some or all systems managed by a utility, more significant economies of scale can be realized. Larger utilities view consolidated rates as an incentive to engage in acquisitions because it can expedite the process and simplify ratemaking. The single-tariff price also can provide a powerful incentive for small communities as they contemplate selling their systems to larger utilities.

Other secondary advantages of consolidated rates include improved regulatory compliance by water utilities, the provision of universal service to customers who desire and need water service, and coordinated water resource protection, management, and planning. Even without physical interconnection, regional utilities can play a role in defining regional communities within which environmental services are provided. A consolidated rate for a larger community of customers will be more sustainable over time than stand-alone rates for smaller communities.

Consolidated rates also can improve the overall operational efficiency of a utility. Absent single-tariff pricing, the utility might be induced to invest in the system facing the highest rates, even if this is a suboptimal choice from the standpoint of total system operations and economic value to the customer base as a whole. In other words, the utility might feel pressure to lower *prices* instead of lowering total system *costs*. With single-tariff pricing, utilities are induced to invest their available resources in the functional areas where the greatest improvement can be achieved at the lowest cost, to the benefit of all customers.

The primary disadvantages of single-tariff pricing are that it appears to undermine economic efficiency, distort price signals to customers, and manifest an inconsistency with traditional cost-of-service principles.[4] Although subsidies through some societal policy instruments (namely, taxes) are widely accepted, subsidies through utility rates generally are not.[5] Another potentially important equity concern is whether consolidated rates result in subsidies from the low-income customers in the low-cost area to higher-income customers in a high-cost area. This effect is mitigated to the extent that water use by low-income customers tends to be relatively low. Various aspects of the rate design also can lessen this type of subsidy.

Some communities and large-volume water users have opposed single-tariff pricing because they believe it is merely a means of subsidizing high-cost users at the expense of low-cost users. For this reason, single-tariff pricing also seems to be at odds with water conservation, in that it appears to weaken price signals and thus undermine efficient production and consumption. If rate consolidation involves a price decrease for some customers, one concern is that water consumption could increase.[6]

Secondary disadvantages are that—*absent other incentives or safeguards*—single-tariff pricing can provide some water utilities with incentives to overinvest in individual systems, disincentives for cost control, and a competitive advantage in the course of acquisitions. The latter concern applies only if one potential acquirer can offer consolidated rates and another cannot.[7]

These concerns are fundamental to utility economics, pricing, and regulation. However, any differences between single-tariff pricing and spatial pricing in terms of efficiency and other effects have not been well established from either a theoretical or empirical standpoint. Evaluating the *net* efficiency effects is especially difficult. Single-tariff pricing might lessen some kinds of efficiency (such as those related to spatial allocation of costs and price signals to customers), while improving other kinds of efficiency (such as those related to management and innovation). Of particular importance, but hardest to gauge, is whether single-tariff pricing and related restructuring can lead to long-run efficiency

[4] Steve H. Hanke, "On Water Tariff Equalization Policies," *Water Engineering and Management* 128 (August 1981): 33-34.

[5] The appropriateness of rate differentiation continues to be debated today in the context of both regulation and *de*regulation of public utility industries. The potential movement away from cost averaging for some services will affect customers, as well as the utilities that serve them.

[6] The price elasticity literature, however, is clearer about the usage effects of price increases than the usage effects of price decreases.

[7] In realty, competition for acquisitions is less a problem in the water industry than finding a single capable and willing buyer.

improvements in the water industry. Single-tariff pricing also has been underevaluated in terms of ratemaking criteria other than economic efficiency.

Single-Tariff Pricing as a Policy Issue

Single-tariff pricing is a public policy issue because it involves tradeoffs among competing policy objectives. Traditional cost-of-service principles and economic efficiency arguments, adhered to in the U.S. model of economic regulation as applied by the states to public utility monopolies, can lead to the conclusion that spatially-differentiated (or allocated) costs should be used as the basis for pricing utility services. Single-tariff pricing as a matter of public policy in this context requires an explicit recognition of the tradeoffs involved.

Specifically, single-tariff pricing involves a tradeoff between conventional ideas about cost-based rates, economic efficiency, and other legitimate ratemaking goals. These other goals include, for example, small-system capacity, rate and revenue stability, universal service, and compliance with environmental standards. A fine-tuned price signal that appears to be economically efficient, for example, can result in considerably less rate and revenue stability. Likewise, a conservation-oriented rate may not be affordable to customers. Evaluating ratemaking trade-offs can be complex. The decisionmaking process can be greatly enhanced by information and analysis, and decisions can be made more rational, but a certain degree of judgment ultimately is required in determining whether a particular option is in the public interest.

The short-term goals of single-tariff pricing tend to focus on enhancing the financial capacity of water systems and making rates more affordable for water customers. The long-term goals, however, are related to structural change in the water industry. Specifically, single-tariff pricing is regarded as a means to consolidating the management and operation of water systems, or "regionalization," to achieve multiple policy goals.

The Regulatory Context

Single-tariff pricing has received more attention in the context of economic regulation by the state public utility commissions than in context of public ownership (where regulation is limited or nonexistent). A compilation of citations to selected commission orders on the issue can be found in Appendix B of this report. As discussed later in this report, the issue is not equally relevant in every jurisdiction. Not all states regulate water utilities, and for those that have jurisdiction, multi-system water utilities may not be present. Single-tariff pricing also has not been raised as an issue for every multi-system water utility

Single-tariff pricing was placed on the regulatory policy agenda by the investor-owned water industry. Some water industry officials have made a strong case for single-tariff pricing before regulators. Several of the regional affiliates of the American Water Works

Company have taken the lead in advocating this method of pricing before the state public utility commissions, including the commissions in Illinois, Indiana, New Jersey, and Pennsylvania. However, other multi-system utilities (not affiliated with American Water Works), commission staff members, and other stakeholders also have raised the potential use of single-tariff pricing.

The many proceedings (and sequences of proceedings within certain jurisdictions) in which the issue of single-tariff pricing has been raised is suggestive of the *case-by-case* manner by which single-tariff pricing policy has largely developed. This is due in part to the nature of commission decisionmaking: regulators must rule on the record of evidence put before them in a given proceeding and each individual utility generally must make its own case for implementation. However, some commissions have explicitly encouraged the movement toward single-tariff pricing and a few have incorporated this approach into general policies and specific policies dealing with acquisitions of smaller systems.

Opponents have argued forcefully before the commissions that single-tariff pricing contradicts fundamental regulatory principles and conventions, as well as undermines the commission oversight responsibility:

> Tariff consolidation, sometimes called Single Tariff Pricing (STP), breaks the connection between costs and rates. It is a fundamental tenet of utility ratemaking policy that the cost causer should also be the cost payer. STP runs counter to this principle. Under and STP scheme, customers who receive no service from the core system would receive a considerable subsidy. Likewise, customers who do not impose a load on the [noncore systems] would be forced to pay a portion of the cost of providing that service indefinitely. A customer located in the core system would be encouraged to conserve water to an excessive degree. Conversely, a [noncore customer] would bear a smaller economic penalty for using more water than necessary.
>
> It is also important to note that once a regime of subsidies has been initiated, it is very difficult to discontinue this practice due to customer impact considerations, even if it has been found to create undesirable consequences. Subsidies are understandably popular among those who receive them, and it is equally understandable that they will resist their being terminated. Conversely, subsidies are understandably unpopular among those who pay them....
>
> If rates were to be consolidated, there would be no reason to maintain separate books and records for each of the [systems]...[8] However, this loss of operating and financial data would destroy the ability to evaluate the effectiveness and efficiency of the Company's operation of the [systems]. As a result, the [public utility

[8] This point seems somewhat overstated. Most consolidated utilities maintain detailed cost and other data on their operating units for planning and management purposes. Under single-tariff pricing, the need for an acceptable method to allocate *common* costs across distinct systems for ratemaking purposes is lessened or eliminated.

commission] would lose its ability to exercise regulatory oversight and control as it pertains to these systems.[9]

Most of the commissions historically shared this predilection for "cost-based" rates. In numerous recent decisions involving a variety of utilities and issues, however, many of the state public utility commissions have found that single-tariff pricing is *in the public interest* and that it comports with prevailing standards concerning just, reasonable, and nondiscriminatory rates. Some commissions have found that single-tariff pricing is not inconsistent with cost-of-service principles or with commission ratemaking authority.

A variety of specific rationales (or combinations thereof) have been put forth by some of the commissions to justify approval of single-tariff pricing: it addresses pragmatic concerns affecting utilities and customers (namely, revenue stability and mitigation of rate shock); it is consistent with consolidated management, operations, financing, and corporate structures; it reduces regulatory caseload and costs; and it results in comparable prices for comparable services produced from comparable facilities. Many investor-owned utilities have strongly urged regulators to recognize that these companies provide all of their customers the same brand-name product (a safe and reliable supply of potable water) and that single-tariff pricing will also make the product more affordable. Essentially, single-tariff pricing makes it possible for all customers to share in the total economies of scale and scope achieved by the utility corporation.

Asserting regulatory authority to approve single-tariff pricing in some jurisdictions has not been an easy task. The issue often arises in the context of other complex regulatory issues related to water utility rates, management, operations, and acquisition practices. Regulatory rulings must be within the scope of commission authority and the boundaries set by state legislatures and the courts; if not, commission decisions can be legally challenged. Nevertheless, as explored later in this report, the state public utility commissions have approved the use of single-tariff pricing for many multi-system water utilities. Several specific regulatory determinations involving single-tariff pricing are reviewed later in this report.

[9] Ernest Harwig, Direct Testimony before the New Hampshire Public Utilities Commission in DR 97-058, Pennichuck Water Works, Inc. (1997).

2. Background

With few exceptions, the literature on public utility economics and ratemaking–including ratemaking for the water industry–sheds little direct light on the issue of single-tariff pricing. The leading scholarly work on utility economics mainly considers the economic characteristics of telecommunications and energy industries, where private ownership prevails, regionalization is pervasive, physical interconnection is the norm, and costs of transmission are low.[10] The leading manuals on water utility ratemaking published by the American Water Works Association convey little (if any) information about the single-tariff pricing method, a fact that probably undermines the method's institutional acceptance.[11] A cursory review of other promising bodies of literature, such as economic geography, does not readily yield information on this apparently understudied issue.

The limited discussion of the spatial dimension of utility ratemaking appears mainly within the literature on legal doctrine and in the consideration of zonal pricing.

The Municipal-Unit Doctrine

In the adolescent years of the public utility industries, legal scholars debated whether costs of providing service should be allocated spatially. Specifically, the debate centered on the cost differences associated with providing service to urban and rural areas, the latter of which can be more expensive to serve because of the cost of service-line extensions and lack of economies of scale (for example, numerous users at the end of the line). The known result of strictly cost-based pricing would have been to discourage the extension of "modern" services to rural areas. Based on the essential nature of utility services, the consequence would have been marked differences in the quality of life between urban and rural dwellers, as well as underdevelopment of rural communities.

A series of legal precedents seemed to establish municipalities as ratemaking units for utilities serving multiple cities. The "municipal-unit doctrine" refers to the treatment of a municipality as a distinct service territory and unit for cost allocation and ratemaking purposes (that is, "city-based" rates). In a 1934 review, however, Robert D. Armstrong passionately rejected the "municipal-unit doctrine," primarily on economic-development grounds:

> System utilities have made service available to the entire public, both urban and rural, within large areas. This development serves a sound social policy. Any regulatory policy or rule of law which would curtail it or rob it of its just reward would be unfortunate and unwise. If each locality were required to stand upon

[10] See Charles F. Phillips, Jr., *The Regulation of Public Utilities* (Arlington, VA: Public Utilities Reports, Inc., 1993).

[11] American Water Works Association, *Water Rates (M1), Water Rates and Related Charges (M26),* and *Alternative Rates (M34)* (Denver, CO: American Water Works Association, 1983, 1983, and 1992, respectively).

> its own bottom, so to speak, rural and village extension and development would be discouraged, and in many cases existing service abandoned.
>
> This would hurt the larger communities as well as the rural localities. It would tend to eliminate the rural and village patrons, who now contribute something to system overhead and return, and thus lessen its burden upon city and town patrons. It would reverse the process by which large scale production and distribution have been made possible, with more dependable service and lower rates for all. It might ultimately require higher rates within the larger municipalities in order to produce a reasonable unit return.
>
> Moreover, anything that would discourage the development and prosperity of the tributary rural and village territory would react unfavorably on its economic center and business capital.[12]

Armstrong also cites addresses by Governor (and President-to-be) Franklin D. Roosevelt in 1929 and Harvard Professor Philip Cabot in 1932, both of whom advocated "greater uniformity in public utility rates despite differences in cost on broad grounds of public policy."[13] At the 1929 State Fair, Roosevelt "attacked the inequality and lack of standardization" of utility rates and declared the situation "manifestly unfair":

> Now, I am sorry to say that the principle of reasonably equal service at reasonably equal cost to all the people of the State has not been carried out with regard to the two latest forms of public service—the telephone and electricity. For some reason (the history of which it is unnecessary to go into) the original telephone companies were allowed to charge different kinds of rates, and now, when practically all telephones are controlled by the greatest of all American mergers, we do not insist on either uniform service or uniform rate. . .
>
> The other example, and one which is even more glaring in its unfairness, is that of the use of electricity in the homes. The railroad principle of fairly uniform rates has been thrown to the winds even by the public regulating body known as the Public Service Commission. Is it [now] time to stop and ask the question: "Why does electricity in the home, the electric lights, electric refrigerator, electric sewing machine, the home machinery, cost as high as from 15 to 20 cents per kilowatt hour in some localities and as low as from 4 to 6 cents per kilowatt hour in other localities." Why should families in one section be so grossly penalized over families in another section?

[12] Robert D. Armstrong, "The Municipality as a Unit in Ratemaking and Confiscation Cases, *Michigan Law Review* 32 No. 3 (January 1934), footnotes omitted. Armstrong served as a hearing examiner with the Indiana Commission and thereafter with the Interstate Commerce Commission.

[13] Armstrong (1934), 292n.

> This difference in charges is true not merely in its application to regions as large as counties, but is true in respect to towns adjoining each other and houses separated only by a mile or two. This is perhaps one reason why even today nearly two-thirds of all the farm houses in the State of New York have no electricity. I am wondering whether it is not time for the people of this State to ask for the application of a more uniform rate and a more uniform system of charging for installation.[14]

Utility regulators have a considerable degree of discretion in ratemaking, but their authority is derived from state legislatures and checked routinely by the courts. In 1933, for example, the Supreme Court upheld a decision by the Indiana commission to treat municipalities as separate ratemaking units pursuant to state law. In response, however, the legislature expressly authorized the commission to prescribe uniform rates on a regional basis. This section continues to hold a place in the Indiana Code:

> Every public utility is required to furnish reasonably adequate service and facilities. The charge made by any public utility for any service rendered or to be rendered either directly or in connection therewith shall be reasonable and just, and every unjust or unreasonable charge for such service is prohibited and declared unlawful. The commission, in order to expedite the determination of rate questions, or to avoid unnecessary and unreasonable expense, or to avoid discrimination in rates between classes of customers, or, whenever in the judgment of the commission public interest so requires, may, for ratemaking and accounting purposes, or either of them, consider a single municipality and/or two (2) or more municipalities and/or the adjacent and/or intervening rural territory as a regional unit where the same utility serves such region, and may within such region prescribe uniform rates for consumers or patrons of the same class. . .[15]

The policy theory deployed to reject the municipal-unit doctrine accepts a fairly sizable subsidy of rural services in the interest of achieving societal policy goals. Historically, and for public policy reasons, rural utility services also were subsidized through governmental grant and loan programs. In the public sector, local governmental subsidies related to water and wastewater services are relatively common.[16]

Following the apparent demise of the municipal-unit doctrine, most investor-owned telecommunications and energy services seemed to price their products on a service-territory basis. Today, this issue has been eclipsed by the trend toward competitive pricing. Price theory suggests that competitive firms will offer the same price, based on marginal cost, at all locations. Unregulated monopolists will maximize profits by engaging in price discrimination among markets. According to B. Peter Pashigian, the net

[14] Ibid.

[15] Indiana Code §8-1-2-4 Sec. 4.

[16] Another violation of efficiency occurs when subsidies flow *from* the water system to the municipal budget.

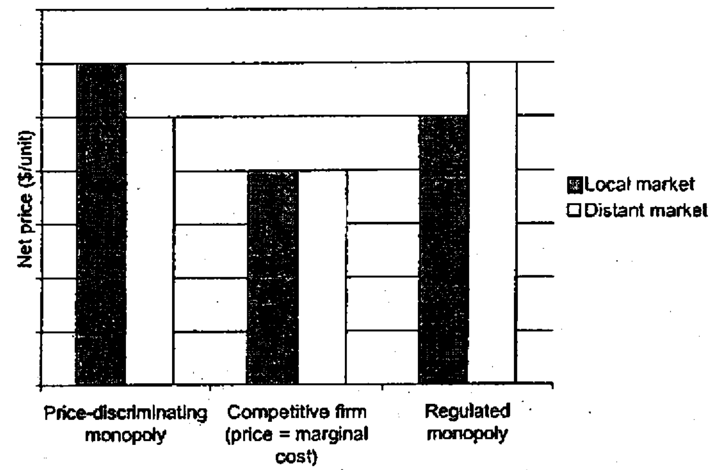

Figure 5. Illustration of Pricing Practices by Firms

Source: Adapted from B. Peter Pashigian, *Price Theory and Applications* (New York: McGraw Hill, 1994), 467.

price will be *lower* in the distant market under geographic price discrimination because the price-discriminating monopolist absorbs the freight costs associated with distant sales.[17]

Of course, economic regulation tends to reverse this finding, resulting in higher prices to higher cost areas (namely, distant or rural markets). Pricing theory suggests, however, that consolidated rates may be consistent with the behavior of competitive firms. The generalized disparity in pricing among different types of firms is illustrated in Figure 5.

Competition places a greater emphasis on overall efficiency as a determinant of price levels, rather than on allocating costs according to space or other criteria used in monopoly ratemaking. Competitive pricing also shifts some attention away from the cost of service toward the value of service. Pricing flexibility can help firms respond to competitive forces, focus on service, and improve overall efficiency. When left to their discretion, many multisystem utilities will opt for the competitive advantage of a consolidated rate. Absent competition, however, the rate will not achieve efficiency.

[17] B. Peter Pashigian, *Price Theory and Applications* (New York: McGraw Hill, 1994), 467.

Spatial Pricing

Analysts seem to agree that utility costs vary *spatially;* that is, the cost of serving one area generally is not matched by the cost of serving another area. For water utilities, differences in elevation, climate, physical terrain, the age of the infrastructure, the density of the service population, and a host of other factors will tend to affect costs even for service territories that otherwise appear similar. Differences in the proximity to water sources, the type of source (surface water versus groundwater), the quality of source water, and implemented treatment methods will tend to produce substantial cost differences.

Assumptions about efficiency and concerns about equity in cost allocation also can lead to zonal pricing, by which utilities vary prices according to spatial variations in costs among customer groups that are grouped into zones, districts, or service areas. Zonal pricing recognizes that the location of consumers within a larger service area can affect the cost of providing service.[18]

With zonal pricing, rates are differentiated according to substantial differences in the cost of serving different areas. Zones generally are defined in spatial terms and represent geographic clusters of customers with similar cost characteristics. Differences in costs among zones may be attributed to differences in distribution system costs, which may be due to differences in the physical plant serving the zones (including age). A more frequently cited reason for spatially differentiated pricing, however, is the variation in pumping costs caused by differences in the proximity to facilities, density of the service population, and particularly elevation. For practical purposes, and as used in this report, zonal pricing is essentially the same as spatially differentiated pricing.

The zonal price can reflect not only the proximity of groups to source and treatment facilities, and differences in terrain, but also the different peaking characteristics that service areas might present. Economist Robert Greene describes a situation in which three zones present alternative distance and peaking characteristics that can be used to guide the efficient allocation of capacity costs for each zone.[19] In this case, customers assume a greater cost burden when they are further from the treatment plant and when they contribute to the peak period of water usage. Greene's example of the cost allocation based on zonal differences appears in Table 1. The cost allocation reflects the fact that users impose different capacity costs on water systems based on their location, well as their contribution to the system's peak loads.

According to Greene:

[18] Janice A. Beecher, Patrick C. Mann, and John D. Stanford, *Meeting Water Utility Revenue Requirements: Financing and Ratemaking Alternatives* (Columbus, OH: The National Regulatory Research Institute, 1993).
[19] Robert Lee Greene, *Welfare Economics and Peak Load Pricing* (Gainesville, FL: University of Florida Press, 1970).

Table 1
Cost Allocation Under Zonal Pricing

Zone	Distance from the Treatment Plant	Peak Period of Usage	Efficient Allocation of the Zone's Capacity Costs
Zone A	1 mile	Period I	All users in Zones A, B, and C
Zone B	1-2 miles	Period II	All Period II users in Zones B and C
Zone C	2-3 miles	Period I	Period I users in Zone C

Source: Adapted from Robert Lee Greene, *Welfare Economics and Peak Load Pricing* (Gainesville, FL: University of Florida Press, 1970), 60.

> The importance of zone pricing rests not only in the proper allocation of resources in water use. There is considerable significance with respect to land use and other objectives. In a discussion of improper pricing policies tied to marginal rents and the constraints imposed by these rents. . . A zone pricing solution can be used for rate differentials in both seasonal and daily peak load problems. . . Zone pricing can also be used to adjust rates in accordance with cost differentials arising from such factors as geographical characteristics and population density. . .[20]

The key issue in implementing zonal rates is one of cost justification. If substantial cost differences exist within a service area, then zonal rates may be an appropriate form of rate unbundling that ostensibly attains more efficient water rates.

The efficiency gain assumes that the zonal rate is cost-based and that the transaction costs associated with unbundling are justified by the efficiency gains. Zonal rates that are arbitrary (for example, rates that bear no relationship to cost variations or rates that are based solely on geopolitical boundaries) will introduce inefficiencies. The expense of developing zonal cost data probably has limited the application of zonal pricing. A prerequisite to efficient zonal pricing is the capability to accurately calculate the cost differences associated with providing service to different zones within a utility's service territory.

Economic and engineering arguments against zonal pricing can be made.[21] Capital-intensive utility systems should be designed for optimal performance of all utility functions (supply, treatment, distribution, and so on) within a service territory. Spatial differentiation within the service territory might subvert this general optimum. In other words, the utility

[20] Ibid., 61-62.
[21] Beecher, et al. (1993).

does not deploy resources in the most economically beneficial manner. Another potential disadvantage of zonal pricing is that it can accentuate the problem of localized cost and rate shock associated with infrastructure replacements. By broadening the customer base, a uniform or average rate will cushion the shock and temper its adverse effects (such as revenue instability).

Zonal rates also raise concerns about equity and perceptions of equity. Obviously, zonal rates usually will be met with considerable resistance from the groups of consumers asked to pay higher water rates. In some contexts, zonal pricing might constitute an undesirable form of price discrimination.

Zonal pricing is used by the water industry to some degree, although not necessarily by that name. Wholesale water rates might qualify as an example because they typically reflect spatial differences in costs. Utilities that set different retail prices for districts served include the California-American Water Company and the Los Angeles Suburban Water Company.[22] A more common form of zonal pricing used by publicly owned utilities is the rate differentiation for service inside and outside municipal boundaries. Fairfield, California provides an example of spatially differentiated pricing, both within the city and between residents and nonresidents (see Table 2). As a generalization, municipal utilities are more likely to use inside-city/outside-city pricing and investor-owned utilities are more likely to seek approval for rate uniformity across service territories.

Table 2
Example of Municipal Zonal Rates for Residential Water Customers

Residential Water Charges	Rate
Service charge	$0.50 per day
Water-use charge	$1.35 per 100 cubic feet
Zone 3 (200 feet and over)	$1.67 per 100 cubic feet
Zone 5 (400 feet and over)	$2.00 per 100 cubic feet
Pneumatic Pump Zones	
Zones 1 and 2	$1.57 per 100 cubic feet
Zones 3 and 4	$1.89 per 100 cubic feet
Zone 5	$2.22 per 100 cubic feet
Outside City Charge	
Service charge	$0.75 per day
Water-use charge	$2.02 per 100 cubic feet

Source: City of Fairfield California Utility Rates, as of January 1, 1999. 100 cubic feet = 748 gallons. (http://www-e-v.com/fairfield/government/public_works/rates.htm).

[22] Raftelis Environmental Consulting Group, *1996 Water and Wastewater Rate Survey* (Charlotte, NC: Raftelis Environmental Consulting Group, 1996).

For a variety of reasons, zonal pricing does not appear to be the prevailing model for retail water pricing. Importantly, costs can vary *within* physically interconnected service territories by magnitudes as great as they might vary between noninterconnected systems. By and large, many cost differentials associated with spatial considerations are essentially disregarded in the ratemaking process for public utility systems.

Spatial Pricing and the Telephone Industry

The rejection of zonal pricing in the debate over statewide telephone rates seems to come closest to providing a rationale for single-tariff pricing by multi-system water utilities. According to Charles Phillips:

> While each exchange is a distinct unit for rate-quoting purposes, the former Bell System companies have generally established rates on a statewide basis. Essentially, the statewide basis provides that the total costs of furnishing telephone service and the resulting revenue requirements are considered for the state as a unit. This practice recognizes that telephone service, both exchange and intrastate toll, furnished by a given company through a state, is, in reality, an integrated whole, all portions of which are interdependent. The objective is to apply throughout the state a well-balanced and coordinated pattern of rate treatment, providing rates that are uniform under substantially like conditions and producing, in the aggregate, reasonable earnings on the company's total telephone operations within the state.
>
> The statewide basis has five important advantages over consideration of individual exchanges. First, the statewide basis permits more people to have better service at a reasonable price. Some small areas, if forced to pay their own way, might have no service at all. Needed plant replacements or additions might be postponed if local customers had to cover their full costs, resulting in deterioration of local service within the exchange and of toll service to and from it. Second, on the statewide basis, customers pay like charges for like amounts of service. If each exchange had to stand on its own feet, customers' charges would vary with physical characteristics of the exchange areas, age of plant, type of equipment and other factors affecting costs, but not necessarily affecting the service rendered. The statewide basis averages out such factors.
>
> Third, customers seem better satisfied with statewide rates, since the application of uniform schedules avoids any questions of discrimination or unfair advantage to pressure groups in individual exchanges. Fourth, the statewide basis tends to stabilize rate levels by providing a broad rate basis. Risks are shared so that a community suffering from flood, storm or other natural disaster or from some local economic difficulty (e.g., the removal of a major industry) need not pay higher telephone rates such as would be required if telephone operations in that exchange had to meet these conditions single-handedly. Finally, the statewide basis is more workable and makes the regulatory process less cumbersome and expensive to both

> the public and the company involved. It avoids multiplicity of rate cases for each individual exchange. It simplifies handling of questions and complaints by the regulatory commissions and administration by the companies.
>
> At the same time, it should be pointed out that the statewide basis results in some subscribers subsidizing other subscribers. Because exchange telephone service is more valuable to customers in the larger service areas, they are willing to pay more for their service. Since their average cash incomes are greater, they are able to pay more. Lower rates in the small towns and rural areas, where average money incomes are relatively low, encourage telephone use and development in these places. Once again, this is an example of how rate discrimination has been used to achieve a socially desirable objective, in this case the widespread development of telephone usage through the country.[23]

Phillips also discusses how "nationwide averaging has been used in establishing interstate toll rates, under which toll rates are the same for equal distances throughout the continental United States, despite differences in the costs involved"[24] A nationwide rate, he acknowledges, has "all of the advantages of statewide rates, but it results in internal subsidization" and raises a variety of competitive issues as well.

Counterpoint

In a direct and provocative treatment of the "uniform pricing" issue, economist Ronald Coase acknowledged that the key arguments favoring uniformity are founded on the view that certain services (namely, utility services) are considered essential and that the undertaking as a whole can be "self-supporting."[25] However, Coase notes the intellectual disagreement among early postmasters (also economists) over whether postage stamp rates actually served the interests of rural communities.

Absent a governmental subsidy, according to Coase, a uniform price actually might cause a provider to avoid or delay extending service to high-cost areas, *even if the customers in high-cost areas are willing to cover the additional costs through rates (or surcharges).* Adding high-cost customers to the mix increases the average cost of production and decreases the economic well-being of the utility. The magnitude of this effect depends on the relative mix of high-cost and low-cost service. Coase makes, and then relaxes, a number of assumptions that may or may not be valid but he does not consider the role of economic regulation. In practice, a forward-looking ratesetting process that accounts for the total cost of service throughout the consolidated service territory neutralizes the disincentive Coase identifies. Indeed, the primary and practical purpose of rate consolidation had been to extend service *while* maintaining the utility's financial health.

[23] Phillips (1993), 517-518.
[24] Phillips (1993), 522.
[25] Coase, "The Economics of Uniform Pricing Systems."

3. Spatial Pricing and Ratemaking Theory

Theoretical Issues

The defining engineering, economic, structural, and institutional characteristics of the water industry generally are not contemplated in the literature establishing the basic principles of utility ratemaking. The central issue of whether physical interconnection should be required for single-tariff pricing by multi-system water utilities is not well addressed. Because other utility infrastructures—electricity, electricity, natural gas, telecommunications—have a high degree of interconnection through transmission grids, the acceptability of cost averaging for non-interconnected systems is a theoretical problem unique to the water and wastewater industries. Although energy and telecommunications providers experience spatial differences in cost, these differences are generally not reflected in prices.

In the prevailing theories used in ratemaking and regulation, the concepts of "due" (or just and reasonable) and "undue" (or unjust and unreasonable) price discrimination are contemplated with regard to customers classes but not with regard to spatially defined systems. Separate prices for separate systems owned by a common entity reflect assumptions about the implications of the cost allocation for efficiency. It can be argued that water costs are allocated (and prices are charged) on a spatial basis primarily because they *can be,* rather than that they *should be* for unequivocal theoretical or empirical reasons. In other words, the costs of providing utility service can be approximated for individual operations (with corporate common costs allocated among them), but the benefits and desirability of doing so are contingent on other considerations.

A logical (if not well documented) argument can be made that spatial pricing comports with cost-of-service principles and enhances allocative efficiency: customers of systems with higher costs pay higher rates and customers of systems with lower costs pay lower rates. The degree of subsidy or inefficiency introduced with single-tariff pricing, and whether or not it is acceptable, depends in part on the differential in costs among systems. A small differential with a minimal rate impact will be less controversial than a large differential with a substantial rate impact. Little guidance is available on to what extent of cost averaging through single-tariff pricing would constitute an inappropriate level of subsidy, undue price discrimination, or more generally an abuse of monopoly power.

However, with or without single-tariff pricing, utility rates can be more or less efficient depending on other features of the rate (such as the mix of fixed and variable charges, the number of rate blocks, rate-block differentials, and seasonal differentials). These features can promote efficient water use and can do so when used in conjunction with single-tariff pricing. Moreover, and perhaps more importantly, the cost of service is not the only guiding principle and efficiency is not the only goal of public utility ratemaking and policymaking, as discussed later in this report.

In reality, virtually all methods of utility rate design require a considerable degree of cost averaging. The obvious example is in the establishment of rates by customer classes (for example, residential, commercial, industrial, and wholesale). But many utility costs are associated with common operational and management functions. Common costs are allocated to customer groups according to one of several available methodologies. For multi-system utilities that do not use single-tariff pricing, common costs must be allocated spatially as well. Allocating common costs requires the analyst to make assumptions about underlying cost drivers and establish yet another layer of averaging. The entire process of cost allocation and rate design is as much art as it is science, and has at least as much to do with equity as it does efficiency.

In many jurisdictions, the *status quo* presents a challenge for utilities. Based on the prevailing theoretical assumptions, the burden of proof has rested on water utilities to justify the use of single-tariff pricing. In other words, the prevailing assumption is that deviations from spatial allocation of costs (such as the movement toward consolidated rates) must be justified. An alternative approach would be to begin with a single tariff and specify the circumstances under which spatial allocation of costs is justified because of concerns about efficiency, equity, subsidies, undue discrimination, or other ratemaking or policy concerns. This might shift attention to the use of extra-tariff instruments, such as surcharges, to make price adjustments needed to encourage efficiency and accomplish other purposes.

Evaluation Issues

The appropriateness of reflecting spatial differences in cost in prices can be evaluated according to traditional and modern ratemaking criteria. The general criteria for many public policies, and for utility ratemaking, often emphasize competing goals. Although it always seems desirable to achieve public policy goals efficiently, efficiency itself is not the only goal of policymaking:

> Of course, efficiency is not the only societal value. Human dignity, economic opportunity, and political participation are values that deserve consideration along with efficiency. On occasion, public decision makers or ourselves, as members of society, may wish to give up some economic efficiency to protect human life, make the final distribution of goods more equitable, or promote fairness in the distribution process. As analysts we have a responsibility to confront these multiple values and the potential conflicts among them.[26]

The emphasis on, concept of, and assumptions about efficiency shape views about what is just, fair, or equitable. Political philosophers offer alternative perspectives. The Rawlsian theory of justice, which holds that public policies should be used to

[26] David L Weimer and Aidan R. Vining, *Policy Analysis: Concepts and Practice* (Englewood Cliffs, NJ: Prentice-Hall, 1989), 31.

provide the greatest benefit to society's least advantaged, is perhaps the best example of a countervailing philosophy.[27]

Ratemaking Criteria

Ratemaking and rate design are guided by certain fundamental principles that are well established and well accepted in the regulatory community. These principles provide guidance, but are not decisive because each involves a degree of subjectivity and some principle might directly clash with others.

Most ratemaking analysts rely substantially on James Bonbright's eight criteria for a sound or desirable rate structure:

1. The related, "practical" attributes of simplicity, understandability, public acceptability, and feasibility of application.
2. Freedom from controversies as to proper interpretation.
✓3. Effectiveness in yielding total revenue requirements under the fair-return standard.
4. Revenue stability from year to year.
5. Stability of the rates themselves, with a minimum of unexpected changes seriously adverse to existing customers.
✓6. Fairness of the specific rates in the appointment of total costs of service among the different consumers.
7. Avoidance of "undue discrimination" in rate relationships.
✓8. Efficiency of the rate classes and rate blocks in discouraging wasteful use of service while promoting all justified types and amounts of use:
   (a) in the control of the total amounts of service supplied by the company;
   (b) in the control of the relative uses of alternative types of service (on-peak versus off-peak electricity, Pullman travel versus coach travel, single-party telephone service versus service from a multi-party line, etc.[28]

As indicated by check mark (✓), Bonbright considered three criteria—revenue sufficiency, fairness, and efficiency—to be especially important.[29] Despite the passage of time, Bonbright's criteria remain quintessential. Table 3 presents a qualitative analysis of the consistency of single-tariff pricing with Bonbright's traditional criteria (items 1 though 8). Five additional policy criteria that are especially relevant to modern water pricing also are presented (items a through e).

Consolidated rates generally seem to meet the test of Bonbright's first five criteria. If practicality depends in part on customer acceptance, then acceptance becomes a

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[27] John Rawls, *A Theory of Justice* (Cambridge, MA: Belknap Press of Harvard University Press, 1971).
[28] Phillips (1993), 434-435. Based on James C. Bonbright, *Principles of Public Utility Rates* (New York: Columbia University Press, 1961).
[29] Phillips (1993), 434-435.

determinant. Other aspects of practicality, namely simplicity, understandability, and feasibility of application (or implementation) seem very compatible with single-tariff pricing. The last three criteria are labeled as indeterminate because their compatibility with rate consolidation depends on other policies or practices, or on the subjective judgment of the evaluator. While single-tariff pricing is not necessarily consistent with these criteria, neither is it clearly inconsistent. On the issue of fairness, single-tariff pricing might be considered unfair on the basis of subsidization, but fair on the basis of sharing burdens at a reasonable cost. On the issue of efficiency, other features of a tariff also affect the accuracy of price signals.

The five additional criteria included represent a select group of other potentially relevant policy goals in relation to single-tariff pricing for the water industry. Resource planning is considered indeterminate because planning incentives and outcomes probably are more heavily influenced by the structural character of the water industry than by rate design. However, single-tariff pricing seems rather consistent with four other criteria—standards compliance, customer affordability, industry restructuring, and institutional legitimacy. The last criterion, institutional legitimacy, is somewhat of a composite indicator. The assertion of consistency reflects the generally positive support for single-tariff pricing by the state public utility commissions and the courts.

Table 3
Consistency of Single-Tariff Pricing With Ratemaking Criteria

Criterion	Consistency of Single-Tariff Pricing with Criterion
Bonbright Criteria	
1. Practicality	Generally consistent (if accepted)
2. Interpretability	Generally consistent
3. Revenue recovery	Generally consistent
4. Revenue stability	Generally consistent
5. Rate stability	Generally consistent
6. Fair cost allocation/equity	Indeterminate
7. Discrimination avoidance	Indeterminate
8. Efficient resource use	Indeterminate
Additional Criteria	
a. Resource planning	Indeterminate
b. Standards compliance	Generally consistent
c. Customer affordability	Generally consistent
d. Industry restructuring	Generally consistent
e. Institutional legitimacy	Generally consistent

Source: Author's construct. Criteria 1 through 8 are from James C. Bonbright, *Principles of Public Utility Rates* (New York: Columbia University Press, 1961).

Directly or indirectly, these criteria figure prominently in the consideration of rate consolidation. Other analysts surely could raise other relevant considerations. No attempt is made here to weight the criteria according to perceived importance; this is a task left to policymakers. In reality, the efficiency criterion is assigned considerable weight in ratemaking, as well as in policymaking in general. In other words, divergence from efficient solutions (or solutions that are perceived to be efficient) must be well justified.

The Efficiency Criterion

Economic theory argues for utility pricing that promotes overall *efficiency* for society. An efficient price signal leads consumers to consume, and producers to produce, an appropriate amount of a good or service. Prices that are too low can lead to overconsumption (and underproduction); prices that are too high can lead to underconsumption (and overproduction). The mismatch of supply and demand, and the "welfare loss" associated with it, has rippling effects throughout the economy because in using excessive resources to produce a good, or spending too much for that good, society foregoes opportunities to use those resources or make those expenditures elsewhere.

Economic theory also argues for utility pricing that is *equitable* in terms of allocating costs to those responsible for those costs.[30] In this conception, equity essentially serves efficiency goals. Three kinds of equity can be considered. Horizontal equity suggests that those who impose similar costs should pay the same rate. A related ratemaking principle is that rates should be "nondiscriminatory." Vertical equity suggests that those who impose different costs should pay different rates that reflect those cost differences. Ratemaking allows for "due discrimination" when costs among customer groups vary substantially. Finally, intergenerational equity considers equity along a temporal dimension, suggesting that one generation of customers should not be forced to cover costs imposed by another generation of customers.

Economists long have argued for prices that reflect costs and against subsidies that distort price signals. Modern pricing theory more specifically calls for pricing based on marginal costs; that is, prices should reflect the incremental cost of producing an additional increment of a good. Prices based on long-term marginal costs will help achieve long-term efficiency in deploying resources. Efficiency is a fundamental goal but it is not the only goal of utility pricing. Pricing also must help achieve a delicate balance between the interests of the utility and the interests of ratepayers, and in doing so satisfy the public interest standard.

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[30] Of course, other theoretical perspectives will argue for different kinds of equity, such as social and political equity.

Other Criteria

Another vitally important ratemaking principle centers on the avoidance of "undue" price discrimination. An important issue for regulators is whether the level of price discrimination under either single-tariff pricing or stand-alone pricing is "due or undue," that is, whether or not it is justified. According to Charles Phillips:

> Price discrimination occurs when a seller establishes for the same product or service different rates that are not justified entirely by differences in cost, or the same rate where differences in cost would justify differences in price. . . [I]t would be theoretically possible for a firm to charge each customer a different rate. . .[31]

The often-cited legal standard of "undue discrimination" does not point regulators or the courts to particular solutions, as articulated by Richard J. Pierce:

> Most regulatory statutes forbid "undue discrimination" in the relationship among the rates charged different customers or classes of customers. This statutory standard is almost completely devoid of meaning, however. By using the adjective "undue," the standard obviously authorizes some forms of price discrimination, but it says nothing that would help an agency or a court distinguish between permissible and impermissible rate differentials.
>
> Much of the case law purporting to distinguish between due and undue discrimination is affirmatively misleading. . .
>
> [The Supreme] Court's holding in *Hope* applies with equal force to rate design decisions. An agency's decision has a "presumption of validity," and anyone seeking to overturn it has "the heavy burden of showing that it is invalid." The agency is "not bound to the use of any single formulae in determining rates."[32]

A closely related and equally complex regulatory standard is whether resulting rates are "just and reasonable." Phillips explains:

> [D]iscrimination is accepted in the rate structures of public utilities, but. . . such discrimination must be "just and reasonable." Discrimination is both unintentional and purposeful. It is unintentional in that some discrimination results from the efforts of utilities and commissions to simplify the rate structures by grouping customers into a limited number of classifications. It is purposeful in that discrimination may be the only way in which service can be provided to some customers. Low-density routes may be subsidized by high-density routes (even

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[31] Phillips (1993), 69-70.

[32] Richard J. Pierce, *Economic Regulation: Cases and Materials* (Cincinnati: Anderson Publishing Co., 1994), 122.

> under competition), small towns by large cities. Rather than preventing discrimination, regulation merely seeks to control what discrimination takes place.[33]

In sum, regulatory agencies have considerable discretionary authority, and have exercised that authority, to determine whether rates and rate structures are within acceptable boundaries. Many state public utility commissions have found that rate consolidation by multi-system water utilities is within these boundaries.

Pricing in Practice

Despite the hallowed status of economic efficiency in ratemaking, pricing in practice often violates pricing in theory. Many sources of distortion (governmental grants and subsidies, differences in ownership, ill-defined markets for alternative water uses, and a variety of past public policies) distort price signals for water. The considerable "noise" in the real world of assigning monetary values to water undermines the efficiency of the price signal sent by utilities. Practical applications of marginal-cost pricing, when used at all, deviate substantially from the theoretical construct. One key reason is that strict adherence to the marginal-cost model could allow utility monopolies to receive excess revenues and earn excess profits (in the case of investor-owned utilities).

Averaging costs to one degree or another is an accepted practice in utility ratemaking. For example, rate regulators generally do not accept "vintage" rates that distinguish "old" customers from "new" customers even though old and new customers impose different costs on the utility system.[34] Ratemaking also tends to ignore the reality that older and newer parts of a water system will require capital investments at different times and at different costs; these improvement costs instead are averaged across the entire system and all of the utility's customers.[35]

In rate design, economic theory often gives way—at least somewhat—to practical and public policy concerns. An example that has some relevance for the single-tariff pricing debate is the provision of budget-payment plans for customers that equalize payments over a year, making the utility bill during the peak period of use (such as the winter heating bill or the summer cooling bill) more affordable. A disadvantage of the budget plan in terms of economic efficiency is that it undermines the price signal to customers, which may lead them to overconsume (and pay a higher annual bill than they otherwise would pay). But the advantages of convenience and affordability for customers, as well as avoidance of costly and potentially dangerous disconnections, generally outweigh these theoretical considerations.

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[33] Phillips (1993), 70, footnotes omitted.

[34] John Guastella, "Single Tariff Pricing and Conservation Rates," a discussion paper prepared for the Rates and Revenue Committee of the National Association of Water Companies (1994).

[35] Guastella (1994).

The budget-payment plan is an imperfect analogy to single-tariff pricing, however, in that it is customer-specific and does not involve subsidization from one customer to another. Subsidization will occur, however, with lifeline rates that provide a minimal block of usage at a price below the cost of service and lenient disconnection practices. Such policies introduce equity and fairness considerations beyond those narrowly defined by economic theory.

4. Structural Issues in the Water Industry

The U.S. water industry is complex and diverse. The U.S. Environmental Protection Agency and the state primacy agencies, count noncommunity and community water systems. According to the EPA's *Community Water System Survey* (1997), about 50,289 community water systems operate in the United States. A community water system is a system serving a population of 25 or more people with at least 15 service connections.

The data confirm both the large number of water systems in the United States, as well as the large proportion of smaller systems within that total. Relatively small systems, defined as systems serving communities with a population under 3,300 persons, comprise about 85 percent of total systems and provide water to approximately 12 percent of the connections served by community systems. Conversely, about 15 percent of community water systems are larger in size and provide water to approximately 88 percent of connections.

Systems v. Utilities

Community water *systems,* which the EPA inventories, can be distinguished from water *utilities.* Water utilities are governmental, nonprofit, or private corporate entities engaged in providing water service to one or more service territories. Water *utilities* can operate more than one water *system.* Multi-system utilities are particularly apparent in the private segment of the water industry. Many of the larger investor-owned utilities actually operated several distinct water systems. In some cases, none of the systems operated by the utility are physically interconnected; in other cases, two or more of the systems may be connected to common water source, transmission, or treatment facilities.

The state public utility commissions typically count the number of regulated water *utilities* but not necessarily water *systems.* In 1995, the number of commission-regulated water *utilities* was about 8,537 and the number of commission-regulated water *systems* was about 11,064.[36] Thus, the commissions regulate approximately 20 percent of all water systems, although the number and percentage of commission-regulated systems probably is somewhat underestimated because of the difficulty in counting regulated systems.

In some states, the number of regulated utilities is equivalent to the number of regulated systems. However, the distinction between utilities and systems is important in that many jurisdictional water utilities encompass multiple community water systems. The presence of numerous multi-system utilities is, and will continue to be, an important feature of the U.S. water industry.

[36] Janice A. Beecher, *1995 Inventory of Commission-Regulated Water and Wastewater Utilities.* (Indianapolis, IN: Center for Urban Policy and the Environment, 1995).

Multi-System Water Utilities

A multi-system water utility is a utility comprised of several distinct water systems. Physical interconnection among systems can help utilities achieve economies of scale in production and enhance service reliability. Common management of physically separate systems, however, also can help systems realize operational, management, and financing (cost-of-capital) savings.

Even without physical interconnection, the utility still can achieve economies of scale and scope through certain operational and administrative functions. Operating multiple noninterconnected systems within close physical proximity, for example, might allow the utility to save labor costs by using a circuit rider approach to system operations. A specialized maintenance team might also be used to address ongoing programs for maintenance, replacements, and improvements. Shared operations and management also can enhance the ability of water systems to respond to water emergencies. Consolidated meter reading, billing, and customer relations functions also can produce savings.

At the management level, planning, financing, regulatory relations, and other areas of decisionmaking can be consolidated on a utility-wide basis. Managers with greater expertise can be retained at the utility level than at the smaller system level. While managers with greater expertise will command higher salary and benefit packages, the investment in their expertise can yield savings that individual systems could not otherwise achieve. Ample anecdotal evidence supports the assertion that smaller systems benefit from access to expert technical knowledge. Using this expertise, multi-system utilities can exploit efficiencies and improve effectiveness by deploying a unified workforce, rather than having each individual utility maintain separate capability for various utility functions.

The potential advantages of utility-wide management may extend beyond the immediate efficiency payoffs. Planning for multiple systems, as compared to individual systems, allows for a more comprehensive approach. Better planning, in turn, should enhance the utility's capacity to respond to regional economic and environmental issues. Effective watershed management and source-water protection programs, for example, require a regional perspective that is not easily achieved by isolated systems.

Another appreciable benefit of common management is lowering the cost of capital. A consolidated utility with a broader customer and revenue base is expected to pay lower financing costs than individualized systems. This is a particularly important benefit for very small water systems.

Multi-system utility operations can be linked to the broader and more long-term policy concerns related to structural change in the water industry through regionalization. Multi-system utilities generally serve regional areas. Many have the potential to combine operations, with or without physical interconnection, with other nearby water systems (many of which are small in size). Water utility mergers and acquisitions reflect a very gradual trend toward regionalization and, in some cases, privatization of water services.

Existing utilities also can be used to provide service as an alternative to the creation of new water utilities. Indeed, many states will not certify a new water system if service from an existing provider is feasible. In addition to expanding regional water operations, some water utilities have diversified by entering the wastewater industry. Likewise, some private energy utilities providing electricity and natural gas have ventured into the water business. The formation and expansion of multi-system utilities and multi-sector utilities are part of potentially fundamental structural changes occurring in the water industry.

Pricing and Structural Change

Pricing is intrinsically related to structural change in the water industry. For example, a utility's level of interest in a merger or acquisition opportunity may depend on anticipated price effects. A negotiated sale of a utility might include limitations on near-term pricing practices or even price caps or freezes for a fixed period of time. Larger utilities often are reluctant to consider acquiring smaller, nonviable systems unless reliable means of cost recovery can be identified and secured. An acquisition candidate often presents substantial infrastructure needs but its service community lacks the ability to pay for improvements through higher rates. As mentioned already, the acquisition will yield some economies but not usually economies of a magnitude great enough to offset the diseconomies associated with the smaller system's operations. Some argue that more acquisitions would occur if acquiring companies were provided incentives, including the ability to spread costs throughout the utility's multiple service territories.

Although the dilemmas of small water systems have been extensively studied, the issue of pricing probably has received considerably less attention than viability assessment, capacity building, and related approaches. Pricing policies ultimately will play a role in shaping the future structure of the water industry, including but not limited to the future of small water systems.

Incentives for Restructuring

Single-tariff pricing has the potential to encourage economic industry consolidation and regionalization, as well as privatization.[37] Averaging costs mitigates rate shock for customers and enhances revenue stability for utilities; it also is relatively simple to administer. Some investor-owned utilities have sought rate equalization in direct connection with small system acquisitions.[38] According to one industry representative,

[37] Janice A. Beecher, G. Richard Dreese and John D. Stanford, *Regulatory Implications of Water and Wastewater Utility Privatization* (Columbus, OH: The National Regulatory Research Institute, 1995), 141.
[38] Patrick Mann, G. Richard Dreese, and Miriam A. Tucker, *Commission Regulation of Small Water Utilities: Mergers and Acquisitions* (Columbus, OH: The National Regulatory Research Institute, 1986); Raymond W. Lawton and Vivian Witkind Davis, *Commission Regulation of Small Water Utilities: Some Issues and Solutions* (Columbus, OH: The National Regulatory Research Institute, 1983).

single-tariff pricing "could help solve the dilemma of other nonintegrated small water systems."[39]

The focus of this report is on single-tariff pricing by regulated investor-owned utilities because the issue has emerged primarily within these parameters. Rate consolidation can be used as easily by publicly owned utilities as by investor-owned utilities.[40] Many of the larger metropolitan water systems could acquire numerous contiguous small systems and employ single-tariff pricing with a negligible customer-bill impact.[41] In the context of public utility regulation and mandated takeovers, it appears that the burden of acquiring troubled systems seems has fallen more to privately owned than to publicly owned water utilities. This is because many small systems are privately owned and regulated, the larger investor-owned systems do not confine their service territories to local political boundaries and regulators can provide acquisition incentives to jurisdictional utilities. In the few states where a takeover can be mandated, it may be easier to impose this responsibility on a private system.

Unfortunately, little systematic evidence on the use of single-tariff pricing in the public sector is available. Also, most municipal utilities and many public authorities appear to operate single water systems only. However, one example of the use of single tariff pricing in the nonprofit context can be found in Clark County, Washington. Clark Public Utilities is a customer-owned district that provides water service (and other services) to 24,000 customers throughout Clark County and also operates several small "satellite" systems for small groups of homes throughout the county.[42] All customers pay the same monthly customer charge and uniform volume rate.

Some municipalities do impose zonal rates that reflect differences in elevation and pumping costs. Generally, however, municipal water utilities impose a single pricing structure for all citizen-ratepayers served within municipal boundaries; ratepayers outside of municipal boundaries often pay a higher rate.[43] Higher "outside" rates are justified on the grounds that "inside" customers bear more risks and burdens associated with financing capital improvements through municipal funding instruments. However, the rate differential often appears to be somewhat arbitrary. In a few states, charging a different rate to outside customers can trigger economic regulation by the state (Pennsylvania is an example).

Some insights can be gained from two states where state economic regulation applies both the privately and publicly owned water systems. In Wisconsin, state law *mandates* single-

[39] Edward M. Limbach, "Single Tariff Pricing," *Journal American Water Works Association* 75 no. 9 (September 1984): 52.
[40] Limbach (1984).
[41] Cities may lack adequate incentives or opportunities or acquisitions. In contrast, regulatory agencies can offer investor-owned utilities with rate-of-return and other incentives. Some commissions have the authority to mandate takeovers of smaller, nonviable water systems.
[42] Clark Public Utilities (http://clarkpud.com/Default.htm).
[43] The interest of many investor-owned utilities in single-tariff pricing clearly stands in contrast to the apparent interest of many municipally owned utilities in spatially differentiated pricing.

tariff pricing for municipalities.[44] In West Virginia, where economic regulation applies to public service districts, as well as investor-owned utilities, single-tariff pricing has been an issue because of the needs of the state's rural areas. Single-tariff pricing is approved on a case-by-case basis and both single tariffs and multiple tariffs are used throughout the state.

Many of the state commissions have broadly supported the idea of consolidating water utilities and specifically approved valuation, costing, and pricing practices that encourage larger and healthier utilities to acquire smaller and less healthy utilities. The Pennsylvania Public Utility Commission, in its policy statement regarding acquisitions, explicitly mentions single-tariff pricing. These regulatory policies are being adopted within the larger context of structural change in the water industry. These structural changes may include reconsideration of traditional methods of regulation and ratemaking, as is taking place in many jurisdictions for the other utility industries.[45]

[44] Wisconsin S. 66.069 (1) (a) (1971).

[45] In the increasingly competitive electric and natural gas industries, for example, the interest in regulatory alternatives is high. These alternatives include price caps and flexible rates, which essentially deregulate rate design by giving utilities greater discretion in setting rates within broad parameters.

5. Cost Profile of the Water Industry

Water utilities remain one of the more tried and true monopolies in terms of basic economic characteristics. In general, water service can be provided efficiently by a vertically integrated supplier; two or more suppliers (or redundant distribution systems) in the same service area would greatly increase costs and rates. The technology of water supply clearly demonstrates economies of scale, meaning that average unit costs decrease with the quantity of water provided. The prevalence of many small utilities undermines the industries' overall efficiency in terms of achieving economies of scale.

Even in comparison to other fixed utilities, water utilities require substantial investment in fixed assets relative to the variable costs of production (including the cost of raw water, energy, and treatment chemicals).[46] Using the standard of capital investment per revenue dollar, water supply is among the most capital-intensive of all utility sectors. Capital investment in water supply mainly is a function of the need to establish production capacity; maintain a complex storage, transmission, and distribution network; and meet both fire-protection specifications and peak demands. In general, the water supply industry has high fixed costs and low capital-turnover rates. However, the capital intensity of the water supply industry also can be explained by the industry's relatively low variable (operating) costs, which translate into relatively low operating revenues.

Reflecting these cost characteristics, water rates typically take the form of a fixed charge that does not vary with usage and a variable charge that varies with usage. Traditional cost-of-service principles can lead to very high fixed charges and very low variable charges for water utilities. Efficiency-oriented rates, however, tend to accentuate the variable component of the water bill in order to affect consumption behavior.

Trends in Water Costs

Water supply clearly is a *rising-cost* industry. Water supply utilities, and their regulators at the federal, state, and local levels, are increasingly aware of the water supply industry's changing revenue requirements. Three key forces affecting the industry's costs are (1) the need to comply with regulatory provisions of the Safe Drinking Water Act (SDWA), (2) the need to replace and upgrade an aging water delivery infrastructure, and (3) the need to meet population growth and promote economic development. In addition, water utilities face a variety of secondary cost forces. These include the often high cost of borrowing to finance capital projects (especially for small systems) and the shift to nonsubsidized, self-sustaining operations (especially for publicly owned systems).

[46] For a comparison of the water industry to the electric, natural gas, and telecommunications industries, see Janice A. Beecher, *The Water Industry Compared: Structural, Regulatory, and Strategic Issues for Utilities in a Changing Context* (Washington, DC: National Association of Water Companies, 1998).

The concurrent and mutually reinforcing impact of these forces on many water utilities presents a substantial pressure on both capital and operating costs, a pressure not previously experienced by the water supply industry. In response, water utilities are reexamining their cost allocation and rate design practices. The interest in alternative ratemaking methods for the water sector is on the rise.

Rising costs, along with structural and regulatory changes in this industry is placing new demands on utility regulators. However, rising costs should not be taken for granted but closely scrutinized. Moreover, the water supply industry must be held accountable for making prudent decisions in response to its changing cost profile. The industry must be able to fully justify the use of alternative approaches to meeting revenue requirements (including automatic cost-adjustment mechanisms, pass-throughs, and special surcharges, as well as cost-allocation and rate-design methods).

Water utility regulators generally are open to the consideration of policy alternatives but also vigilant about whether these alternatives are within the scope of regulatory authority and consistent with accepted regulatory principles. Regulators will want to be especially cautious about affecting the incentives that determine whether utility costs are effectively managed. Thus, the industry perspective on rising costs and how to address them should be tempered by a reasoned regulatory perspective.

Economies of Scale

Although an arbitrary threshold, water systems serving under 3,300 (or approximately 1,000 service connections) generally lack economies of scale in production and other aspects of service.[47] As a result, many small water systems are prone to capacity problems and difficult to sustain over time.

Economies of scale in water supply, particularly in the areas of source development and treatment, make it difficult for smaller water utilities to perform as well as larger water utilities. Declining unit costs of production indicate scale economies; as the volume of water "produced" (that is, withdrawn and treated) increases, the cost per gallon or cubic foot decreases. At lower unit costs, production is less costly in the aggregate and more efficient at the margin.

Very small water systems underperform primarily because they simply are not large enough to achieve economics of scale. Scale economies in the water sector explain why smaller utilities tend to have less capacity in financial, managerial, and technical terms.[48] Rising

[47] U.S. Environmental Protection Agency, *Affordability of the 1986 SDWA Amendments to Community Water Systems* (Washington, DC: U.S. Environmental Protection Agency, 1993).
[48] Janice A. Beecher, G. Richard Dreese, and James R. Landers. *Viability Policies and Assessment Methods for Water Utilities* (Columbus, OH: The National Regulatory Research Institute, 1992).

costs over the past decade have exacerbated the condition of smaller systems.[49] Capacity-development problems often are manifested in higher rates for water service.

Scale economies (or lack thereof), thus become an important determinant of how much people pay for water service. As a generalization, assuming comparable system characteristics and cost-based pricing, larger systems should be able to provide service at a lower price than smaller systems. In reality, of course, many factors other than system size (such as the quality of source water and treatment methods required) influence ultimate water costs and prices. But as a generalization, it is widely held that smaller water systems must charge customers much higher rates for water service comparable to service provided by larger water systems.

Importantly, the economies of scale in water production are associated with the *volume* of water produced (not simply the number of service connections). Even smaller systems that are fortunate enough to have one or two large-volume customers will enjoy some economies of scale. Two utilities can have a comparable level of investment per customer and cost-of-service for the same number of residential customers, but if one also serves a large industrial firm and economies of scale are achieved, everyone in that community will enjoy lower water bills. In other words, when *controlling* for large-volume use, the level of investment and the cost of service can be quite comparable from system to system. One of the arguments in favor of single-tariff pricing is that it allows all customers to benefit from the location of large customers anywhere in the composite service territory.[50]

Some evidence about the effect of utility size on water prices is available. A 1996 survey, summarized in Table 4, found that median prices decline as system size increases for different classes of customers served (residential, commercial, and industrial). The implication is that small-systems customers pay more for roughly the same level of service as large-system customers. As a consequence, the affordability of water service is a greater threat for small systems. "Rate shock" is another problem for many smaller systems because increasing costs must be spread over a smaller customer base.

In some respects, rate consolidation is similar to "aggregation," a tool emerging in the context of electric industry restructuring. Aggregation is used to group customers according to similar characteristics, usage patterns, or service requirements. Aggregation can provide access to services and a degree of purchasing power to disadvantaged customers. In effect, multi-system utilities are aggregators for the customers in the various systems they manage. Both aggregation and rate consolidation can promote the broader goal of universal service.

[49] Janice A. Beecher, Patrick C. Mann, and John D. Stanford, *Meeting Water Utility Revenue Requirements* (Columbus, OH: The National Regulatory Research Institute, 1993).
[50] Conversely, large-volume users in the larger service territory might complain that single-tariff pricing forces them to subsidize customers in outlying areas.

Table 4
Monthly Water Bills by System Size and Customer Class

Customer Class	Group A Systems Producing >75 MGD (*n=34*)	Group B Systems Producing 15 to 75 MGD (*n=61*)	Group C Systems Producing < 15 MGD (*n=47*)
Residential			
Median monthly charge for 1,000 cubic feet (7,480 gallons)	$13.19	$14.64	$15.61
Commercial			
Median monthly charge for 50,000 cubic feet (374,000 gallons)	$486.82	$530.92	$578.96
Industrial			
Median monthly charge for 1,000,000 cubic feet (7,480,000 gallons)	$7,926.97	$8,747.06	$10,292.34

Source: Raftelis Environmental Consulting Group, *1996 Water and Wastewater Rate Survey* (Charlotte, NC: Raftelis Environmental Consulting Group, 1996), Exhibit 2.
MGD = million gallons daily. *n* = number of systems in the sample.

Capacity Development

Federal policymakers and state regulators, including both drinking water primacy agencies and public utility commissions, have long been concerned about how to check the emergence of new nonviable water systems, how to improve the performance capacity of existing systems, and how to maintain safe and affordable water service.[51] The 1986 Safe Drinking Water Act triggered substantial attention to small-system issues and the problem of keeping rates affordable in light of the newly enacted standards.

Regulators continue to seek out ways to balance the equally legitimate fiscal concerns of water utilities (that is, financial capacity) and utility customers (that is, affordability). The 1996 Safe Drinking Water Act codified capacity-development policies for new and existing water systems and elevated the capacity-affordability conundrum to a higher place on the policy agenda.

Capacity in this context is defined in terms of a utility's financial, managerial, and technical well being. Financial capacity carries particular importance because a financially healthy utility will have the resources needed for professional management and technically appropriate operations. Many (but not all) small water systems struggle with significant capacity problems. These problems are manifested by the small water utility's poor performance in many areas, including regulatory compliance.

[51] Beecher, Dreese, and Landers (1992).

Traditionally, both economic and public health regulators have been very focused on small-system capacity issues. Policymakers have paid considerable attention to smaller water systems and the tradeoffs between ensuring a financially healthy system and maintaining affordable rates for safe and reliable water service. One manifestation of capacity problems is noncompliance with drinking water standards. For small systems, these violations often include failure to meet monitoring and reporting requirements. Small systems also have difficulty complying with public utility commission regulations. For very small systems, meeting the procedural mandates of economic regulation (such as rate filing requirements) can be difficult.

Small water systems have long troubled state economic regulators. Many (but certainly not all) of the commission-regulated water systems are small in size, which poses certain public policy problems. Particularly problematic are the very small systems that were the product of unchecked real estate development and lax local zoning policies. Many of these systems are geographically isolated, which often precludes interconnection with another system. Lacking economies of scale, smaller water systems typically must charge a much higher rate for service than larger systems. Higher rates make water service less affordable for customers of smaller water systems.

As a utility monopoly, water supply demonstrates substantial economies of scale. Larger water systems enjoy these economies, meaning that they can spread certain costs over a larger customer base. Lower production costs are reflected in lower prices to customers. Smaller systems must recover revenue requirements over a smaller customer base. In general, smaller systems are more likely to encounter capacity and affordability problems.

Consumer Affordability

Economic theory argues strongly for cost-based utility rates, that is, rates based on the true cost of providing a service. An efficient (cost-based) rate should sustain the water system; however, if the rate is unaffordable to the service population and customers cease to pay for and/or receive the service, the water system itself may cease to exist. This solution may achieve a degree of economic efficiency, while sacrificing other fundamental public health, safety, and quality-of-life purposes.

For many water customers, the affordability of water service is a growing problem. The problem of affordability affects customers in terms of increased arrearages, late payments, disconnection notices, and actual service terminations. Affordability affects utilities in terms of expenses associated with credit, collection, and disconnection activities; revenue stability and working capital needs, and bad debt or uncollectible accounts that other customers must cover.

Other ramifications of the affordability issue also are becoming apparent. If a customer base cannot support the cost of water service, potential lenders may be concerned about the utility's financial health and ability to meet debt obligations. Moreover, disconnecting residential water customers can present a public relations nightmare for utilities, particularly because essential services are involved. Increasingly, problems of bad debt also extend to nonresidential utility customers. Financial distress and bankruptcies in the commercial and industrial sectors can leave utilities holding the bag. However, the larger issue of affordability is primarily a concern with respect to low-income residential consumers.

For low-income customers, who have little choice but to buy service from the local utility, paying more for basic water service means going without less essential and more discretionary products and services. Thus, rising water prices can contribute to deterioration in the quality of life for low-income utility customers. While larger systems can spread the cost of providing assistance to low-income customers, a small system with an impoverished customer base has no opportunities for even limited subsidization.

6. Examples of Single-Tariff Pricing

All utility pricing involves some form of *averaging*. Utility systems do not establish a rate for Customer A based on the cost of serving Customer A, a rate for Customer B based on serving Customer B, and so on. Doing so might be considered efficient and equitable, but it also would be extraordinarily costly from an administrative standpoint (that is, the transaction costs would be astronomical). Instead, utility systems tend to group customers into customer classes—residential, commercial, and industrial—based on similarities in the cost of serving customers in those categories. Occasionally, a unique customer (often a large-volume customer, such as a food-processing plant) might be able to negotiate a special rate based on unique cost-of-service characteristics, but most customers pay a rate based on cost averaging.

Basic Single-Tariff Pricing

Single-tariff pricing basically is the conceptual "opposite" of zonal or spatially differentiated pricing. Single-tariff pricing suggests that ratemakers should de-emphasize spatial differences in costs; costs are aggregated rather than disaggregated. One of the chief advantages of single-tariff pricing, from the utility's standpoint, is simplification. Single-tariff pricing does not negate the need to determine the revenue requirement and to allocate the revenue requirement among customer classes. It may still be necessary for the utility to maintain cost data for separate facilities and services in accordance with accepted accounting practices and regulatory reporting standards. Once revenue requirements are established, however, the *allocation* process is greatly simplified because it is unnecessary to spatially allocate common costs (that is, costs that are not site-specific). Total costs simply are spread over the consolidated customer base and only one rate is designed for each class of customers or service.

A sample calculation of a single-tariff price is provided in Table 5. In this very simple illustration, the cost of service and total water sales are varied for three separate service territories (A, B, and C). A relatively modest amount of water usage (5,000 gallons per month or 60,000 gallons per year) is assumed. The number of residential connections and the annual cost of service are varied to reflect differences in costs and economies of scale. For simplicity, only residential customers are considered.

Service Territory A is in the most favorable position, in terms of economies of scale (number of customers and sales volume); Service Territory C is in the least favorable position, which accounts for the higher costs per connection and per sales. A stand-alone tariff results in a cost of service equivalent to $1.94, $2.08, and $2.78 per 1,000 gallons of water service in the three respective service territories. The transition to single-tariff pricing would result in a rate of $2.11 per 1,000 gallons for all customers in all three service territories.

The illustration reveals the resulting shift in cost responsibility from the customers in the larger Service Territory A to the smaller Service Territory C. However, the *decrease* in rates to customers in Service Territory C of 67 cents per 1,000 gallons (24.1%) is offset

Table 5
Sample Calculation of Single-Tariff Pricing

Service Territory A		
Total residential connections		6,000
Total annual water use per connection		60,000
Total annual water sales (gallons)		360,000,000
Total annual cost of service		700,000
Annual cost per connection		$116.67
Cost per 1,000 gallons sold		$1.94
Service Territory B		
Total residential connections		2,000
Total annual water use per connection		60,000
Total annual water sales (gallons)		120,000,000
Total annual cost of service		250,000
Annual cost per connection		$125.00
Cost per 1,000 gallons sold		$2.08
Service Territory C		
Total residential connections		1,500
Total annual water use per connection		60,000
Total annual water sales (gallons)		90,000,000
Total annual cost of service		250,000
Annual cost per connection		$166.67
Cost per 1,000 gallons sold		$2.78
Combined Service Territory		
Total residential connections		9,500
Total annual water use per connection		60,000
Total annual water sales (gallons)		570,000,000
Total annual cost of service		1,200,000
Annual cost per connection		$126.32
Cost per 1,000 gallons sold		$2.11
Rate Impact of Single Tariff	**Per 1,000 Gallons**	**Percentage Change**
Service Territory A	+17 cents	+8.8%
Service Territory B	+3 cents	+1.4%
Service Territory C	-67 cents	-24.1%

Source: Author's construct. For simplicity, only residential customers are considered and a price-elasticity adjustment (that is, a usage response to the change in price) is not included in the illustration.

primarily by the relatively smaller *increase* in rates to customers in Service Territory A of 17 cents per 1,000 gallons (8.8%). The larger number of customers in Service Territory A lessens the impact of the rate adjustment on a per customer basis. Customers in Service Territory B are least affected, experiencing an increase of 3 cents per 1,000 gallons (1.4%) in rates. The lower cost-of-service in Service Territory B (relative to the number of connections served) in comparison to Service Territory C accounts for the difference in the rate impact.

In practice, rate design for public utilities is far more complex.[52] (See Appendix C.) Utilities must analyze the cost of service, including the cost of capital, and determine revenue requirements for the period over which rates will be set (the "test year"). A utility's costs will be allocated according to customer groups (or classes) and the demand characteristics of those groups. Typically, residential customers are distinguished from nonresidential customers, the latter of which are further divided into commercial and industrial classes.

Variations of Single-Tariff Pricing

Utility tariffs, or rate structures, actually have various components. These components make it possible for utilities to approach single-tariff pricing in different ways depending on system cost characteristics and the nature of the current rate structure. Table 6 illustrates three variations. In the first, uniformity is established only for the fixed charge portion of the utility bill. In the second variation, fixed charges vary and uniformity is established for the variable portion of the utility bill. The third variation is the more complete example of single-tariff pricing, where both fixed and variable charges are made uniform.

These variations can be used to phase-in single-tariff pricing over time, as illustrated in Table 7. A phase-in plan reflects the principle of gradualism in ratemaking. A significant change in rate levels or rate design can be implemented in phases, rather than at once, in order to reduce rate shock to customers and revenue instability to the utility. In this example, the utility first consolidates fixed charges and gradually consolidates the variable rate. Many utilities have used a phased approach to implementing single-tariff pricing, with the encouragement and approval of regulators.

At least three other variations of single-tariff pricing can be identified. First the utility can retain current rate differentials and equalize future rate increases. This addresses the rate shock issue while maintaining rate differences based on historical differences in costs. Second, the utility can use rate "bands" to establish tariffs for groups of systems with similar cost characteristics. Third, the utility can combine rate equalization with the strategic use of short-term or mid-term surcharges to pay for extraordinary costs associated with blending the operations of multiple systems. Each of these methods has been implemented on at least one occasion.

[52] Beecher and Mann (1990).

Because of rising costs, and the need for rate customers to gradually become accustomed to higher rates, it may not be desirable to lower rates at all for any customer group. Rather, it may be advisable to "cap" higher rates in the higher-cost areas and gradually increase rates in the lower cost areas. Although customers should be educated about changes in the rate structure, a phased approach and a price-cap approach might help mitigate complaints about cost shifting.

Table 6
Pricing Variations for Fixed and Variable Water Charges

	Before Implementation		After Implementation	
	Fixed Charge	Variable Rate	Fixed Charge	Variable Rate
Variation 1: Change to Single Fixed Charge Only				
Service Territory A	$6.00 per month	$1.95 per 1,000 gallons	$7.50 per month	$1.95 per 1,000 gallons
Service Territory B	$9.00 per month	$2.15 per 1,000 gallons	$7.50 per month	$2.15 per 1,000 gallons
Variation 2: Change to Single Variable Rate Only				
Service Territory A	$6.00 per month	$1.95 per 1,000 gallons	$6.00 per month	$2.05 per 1,000 gallons
Service Territory B	$9.00 per month	$2.15 per 1,000 gallons	$9.00 per month	$2.05 per 1,000 gallons
Variation 3: Change to Single Tariff for Fixed Charges and Variable Rates				
Service Territory A	$6.00 per month	$1.95 per 1,000 gallons	$7.50 per month	$2.05 per 1,000 gallons
Service Territory B	$9.00 per month	$2.15 per 1,000 gallons	$7.50 per month	$2.05 per 1,000 gallons

Source: Author's construct.

Table 7
Phase-In Approach to Single-Tariff Pricing

	Before Implementation		After Implementation	
	Fixed Charge	Variable Rate	Fixed Charge	Variable Rate
Phase 1: Change to Single Fixed Charge				
Service Territory A	$6.00 per month	$1.95 per 1,000 gallons	$7.50 per month	$1.95 per 1,000 gallons
Service Territory B	$9.00 per month	$2.15 per 1,000 gallons	$7.50 per month	$2.15 per 1,000 gallons
Phase 2: Adjust Variable Rates				
Service Territory A	$7.50 per month	$1.95 per 1,000 gallons	$7.50 per month	$2.00 per 1,000 gallons
Service Territory B	$7.50 per month	$2.15 per 1,000 gallons	$7.50 per month	$2.10 per 1,000 gallons
Phase 3: Equalize Variable Rates				
Service Territory A	$7.50 per month	$2.00 per 1,000 gallons	$7.50 per month	$2.05 per 1,000 gallons
Service Territory B	$7.50 per month	$2.10 per 1,000 gallons	$7.50 per month	$2.05 per 1,000 gallons

Source: Author's construct.

Two Recent Cases

In 1997, the Indiana Utility Regulatory Commission approved a hard-won plan by the Indiana-American Water Company to consolidate rates. Figure 6 illustrates the difference in revenue requirements per equivalent residential customer for stand-alone pricing, common-management pricing, and single-tariff pricing.[53] Stand-alone pricing reflects the costs that a commonly owned or managed water system would incur if it replicated the same services and functions on a basis completely independent of the parent utility and other systems. Common-management pricing reflects costs that are incurred on the basis of the joint operation of multiple systems. Costs under common management, given management economies of scale and scope, should be less for the utility than the sum of stand-alone costs for all of the operated systems.

[53] In this illustration of single-tariff pricing, the use of equivalent customers produces a comparable but not identical level of revenues per customer across all service territories because of differences in water usage.

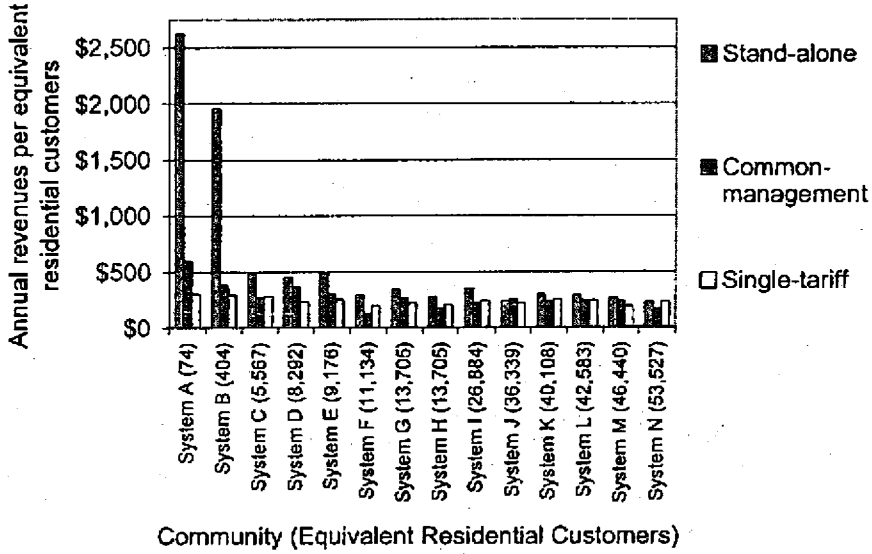


Figure 6. Revenue Requirements per Equivalent Residential Customers for Stand-Alone Costs, Common-Management Costs, and Single-Tariff Pricing

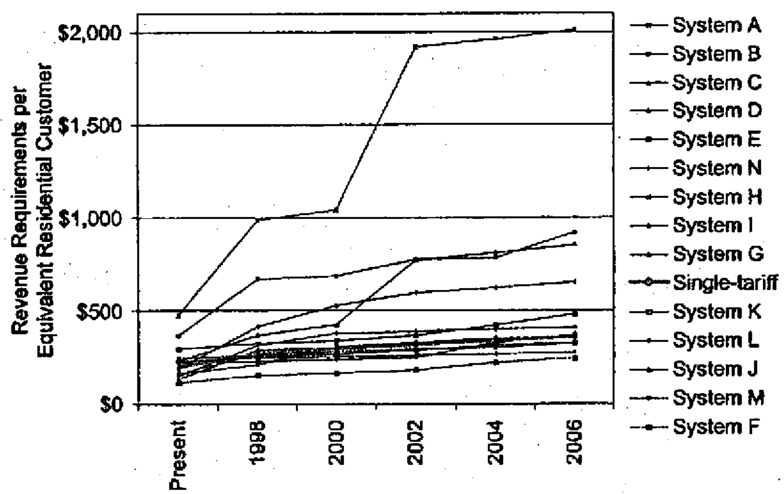


Figure 7. Forecast Revenue Requirements per Equivalent Residential Customers Including Capital Improvements

Source: John F. Guastella, Testimony in Cause No. 40703 before the Indiana Utilities Regulatory Commission, Indiana-American Water Company (1997), Exhibits JFG-5, JFG-R-1, and JFG-R-3.

For each community served, the economies of scale and scope achieved by common management are obvious. Left to their own devices, none of the communities could replicate the same level of service at the same cost. In other words, each community's true stand-alone cost would be much higher than their share of costs under consolidated operations. These cost savings are achieved independent of the pricing structure.

The additional benefits of single-tariff pricing are fairly obvious. The smaller, very high cost systems at the low end of the spectrum clearly have much to gain through rate consolidation. Both common-management and consolidated rates are a fraction of what the system would pay on a stand-alone basis. The impact of the single-tariff price on customers at the middle and higher end of the spectrum is not necessarily substantial.

The rate stabilizing effect of single-tariff pricing is illustrated by the revenue requirements forecast for the same group of utilities (Figure 7). Over time, the single-tariff provides considerable rate (and revenue) stability and, once again, the benefits for the smaller systems are clear. In this particular case, substantial rate hikes associated with planned capital improvements for four systems can be mitigated. The timing of capital expenditures will play a role in determining perceptions about the benefits of single-tariff pricing to individual communities. The obvious affordability benefits to small systems, as well as the general "smoothing" effect on revenue requirements, are among the leading rationales for single-tariff pricing.

Similar results were achieved in another recent case involving a New Hampshire utility, Pennichuck Water Works, Inc. Without rate consolidation, some water customers would face annual water bills as high as $1,200, as illustrated in Figure 8. In its decision, the New Hampshire commission directly addressed subsidy and affordability issues, as well as the anticipated benefits of adopting the single tariff:

> We do not believe it would be in the public interest to impose annual rates in the range of $800 to $1200, as would be the case here, when a reasonable alternative is available. By consolidating the community systems with the core system for ratemaking purposes, all customers would face a uniform tariff which, for the average residential customer, would be approximately $253 per year. The rates for the average residential customer in the core system would increase less than $1.00 per month, for a total of $8 per year, under the rate consolidation proposal which, in light of the alternative, we find to be acceptable. We consider a single tariff rate of approximately $253 per year for the core residential customer to be just and reasonable. A consolidated rate will ensure affordability and the continued viability of many of Pennichuck's community systems. It will also enable Pennichuck to operate in a more administratively efficient manner by eliminating separate general ledgers for each system, thereby reducing administrative costs.[54]

[54] New Hampshire Public Utilities Commission, Order in Docket DR 97-058, Pennichuck Water Works, Inc. (1998).

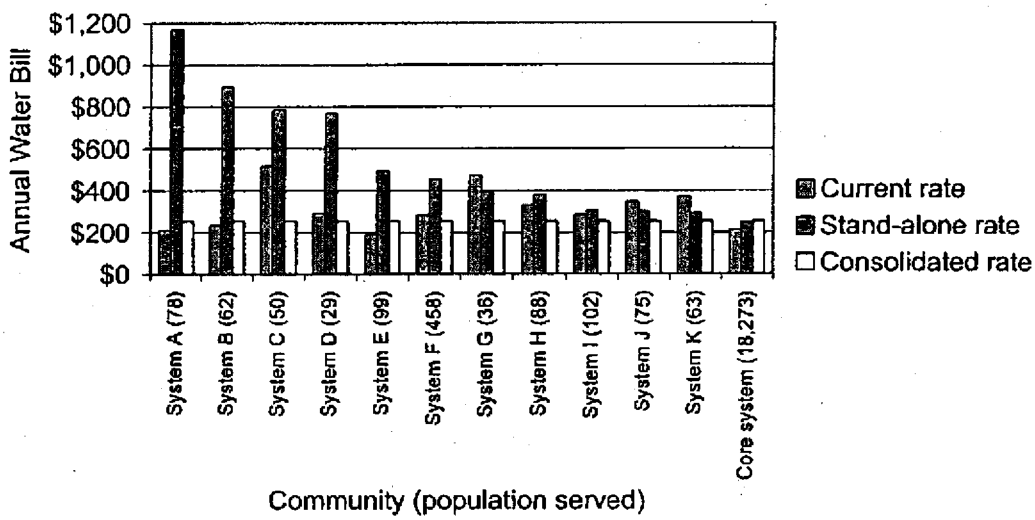


Figure 8. Stand-Alone and Consolidated Rates for Pennichuck Water, New Hampshire

Source: New Hampshire Public Utilities Commission, Order in Docket DR 97-058, Pennichuck Water Works, Inc. (1998).

Single-Tariff Pricing in Great Britain

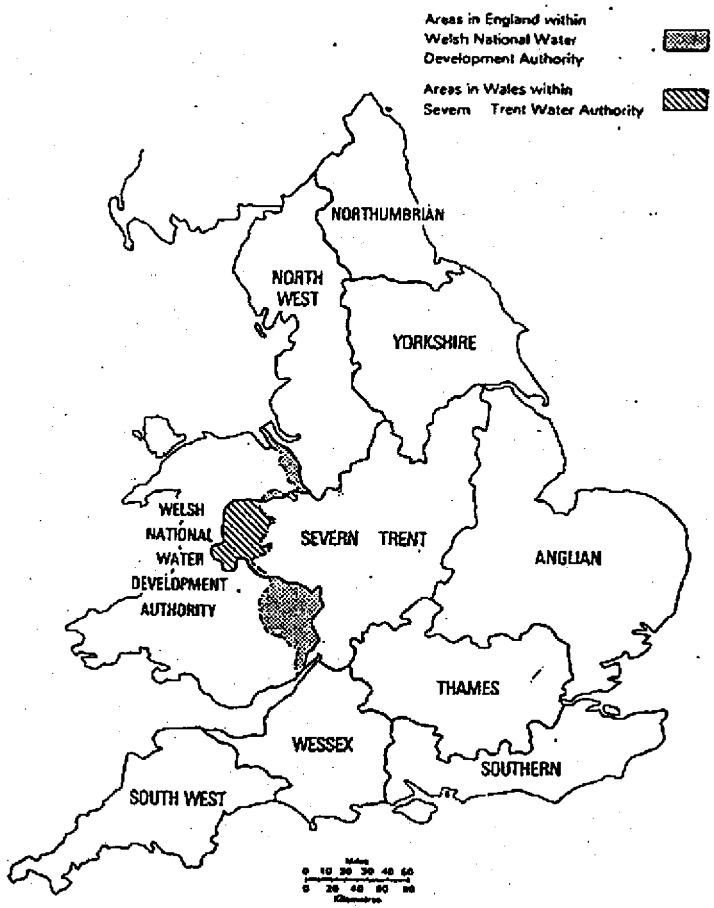
Great Britain provides a "real life" example of the use of single-tariff pricing on a very large scale. In 1989, Great Britain's ten large regional water, wastewater, and stormwater service providers (shown in Figure 9) were transformed from nationalized to investor-owned utilities. Since privatization, the tariffs established for *measured* (metered) service within each of the regional systems have been uniform. In other words, single-tariff pricing is implemented along with metering. Each of the water utilities provides a metering option, although a large proportion of British households is not metered. For *unmeasured* service, standing charges are uniform. However, variable charges are based not on water volumes but on the "rateable" value of properties served. These charges vary according to geographic zones for the Severn Trent and Thames water utilities, but not for the other utilities.

Tariffs for residential water service for 1995-1996 are reported in Table 8. Metered rates for large users are comprised of standing (fixed) charges that vary by meter size, plus a volumetric charge. Standing and volumetric charges are uniform for large-volume customers throughout the company service territories.

In addition to the larger privatized utilities, another twenty-one water service companies also serve somewhat smaller service territories in Great Britain, although in terms of population served almost all seem quite substantial in size when compared to many U.S. water systems. For the most part, these companies also employ single-tariff pricing. All of the twenty-one companies use a uniform standing (or fixed) charge; four have different volumetric rates for different geographic areas served.[55]

[55] For one of these companies (Three Valleys), two of three areas have comparable metered rates, suggesting a gradual move toward uniform pricing. A fifth water company (North East) adopted single-tariff pricing in the 1993-94 rate period for its two areas (each of which also is subdivided).

WATER AUTHORITY BOUNDARIES



The ten Water Authorities in England and Wales
(reproduced by permission of the Controller of Her Majesty's Stationery Office)

Figure 9. Regional Water Utilities in Great Britain.

Source: Daniel A. Okun, *Regionalization of Water Management: A Revolution in England and Wales* (London: Applied Science Publishers, 1977).

Table 8
Metered Water Tariffs for British Water Companies, 1995-1996 (Household Customers)

Company	Service Characteristics			Tariffs for Water Service			
	Area Served	Households Served	Metered Households	Unmetered		Metered	
	km²	(000)	(%)	Standing charge (pounds)	Rateable Value Charge	Standing charge (pounds)	Volumetric Charge p/m³
Anglian	22,000	1,510	16.8	37.35	50.69	27.00	69.62
Dwr Cymru	20,400	1,081	2.8	81.28	38.72	33.00	75.39
North West	14,415	2,643	4.9	29.00	35.20	32.00	60.10
Northumbrian	3,850	470	0.6	52.00	27.15	31.20	53.43
Severn Trent	19,745	2,804	8.2				
Zone 1				none	45.85	27.00	62.90
Zone 2				"	41.29	"	"
Zone 3				"	40.04	"	"
Zone 4				"	41.81	"	"
Zone 5				"	48.08	"	"
Zone 6				"	50.02	"	"
Zone 7				"	50.38	"	"
Zone 8				"	40.04	"	"
East Worcester				"	41.29	"	"
South West	10,300	585	9.1	40.00	49.43	27.20	74.63
Southern	4,450	879	11.8	21.00	33.70	31.00	52.10
Thames	8,200	3,022	5.4				
Area 1				14.00	25.41	20.00	48.14
Area 2				"	25.85	"	"
Area 3				"	19.45	"	"
Area 4				"	23.29	"	"
Area 5				"	29.90	"	"
Area 6				"	25.90	"	"
Area 7				"	35.63	"	"
Wessex	7,350	435	9.7	24.00	45.45	30.50	67.78
Yorkshire	13,900	1,729	6.0	22.00	56.60	25.00	64.20

Source: Office of Water Services, *1995-96 Report on Tariff Structure and Charges* (Birmingham, UK: Office of Water Services, 1995

7. The Public Utility Commission Role

Regulation of the water industry, like the water industry itself, is fragmented and pluralistic. All community water systems, regardless of their ownership, are subject to federal and state drinking water regulations pursuant to the federal Safe Drinking Water Act. Drinking water standards focus on public health concerns. Water systems in many states also are subject to water quantity regulations, meaning that water withdrawals are regulated through registration or permitting mechanisms. Economic regulation of water utility prices and rates of return is the domain of the state public utility commissions. The commissions play a quasi-administrative, quasi-legislative, and quasi-judicial role in terms of overseeing the utility industries.

Although their jurisdiction for the water industry is not comprehensive, and generally applies only to investor-owned water systems, the state public utility commissions have specific authority and expertise in the area of pricing. Moreover, many commission-regulated systems are small in size. Thus, pricing practices in general, and commission policies in particular, are worth considering when crafting solutions for small systems.

Forty-five commissions presently have authority to regulate investor-owned water utilities. In some of the states, commission regulation extends to other types of water utilities under certain circumstances. For example, some states regulate municipal water utilities if they provide service outside of municipal boundaries. In Florida, counties can opt to regulate water systems; in Indiana, municipal water utilities can opt to be regulated. In terms of commission jurisdiction and authority, many variations among the states can be found.

Not all water utilities are subject to commission regulation. Most water utilities in the United States are publicly owned and not subject to state economic regulation. The state public utility commissions do not regulate water utilities in Georgia, Michigan, Minnesota, North Dakota, South Dakota, or Washington, D.C.

Number of Regulated Utilities

Periodic surveys have been conducted for the purpose of counting the number of regulated water and wastewater systems. As noted earlier, for 1995 the total number of commission-regulated water utilities in the United States was approximately 8,537.[56] Approximately 4,095 regulated water utilities are classified as investor-owned water utilities.[57] Table 9 summarizes the 1995 inventory of commission-regulated water and wastewater utilities.

[56] Beecher (1995).

[57] These data include 15 investor-owned utilities and 3 homeowners' associations that no longer are regulated in Michigan.

Table 9
Commission-Regulated Water and Wastewater Utilities

Utility Ownership	Water Utilities		Wastewater Utilities	
	Number of Commissions	Number of Utilities	Number of Commissions	Number of Utilities
Investor-owned or private	46	4,095	28	1,233
Municipally-owned	11	1,547	6	649
Districts	7	1,300	4	205
Cooperatives	4	1,436	2	50
Homeowners' associations	6	85	1	0
Nonprofits	1	73	1	15
Other	1	1	0	0
Totals	46	8,537	28	2,152

Source: Janice A. Beecher, *1995 Inventory of Commission-Regulated Water and Wastewater Utilities* (Indianapolis, IN: Center for Urban Policy and the Environment, 1995). Includes data for Michigan, which ceased regulating 18 systems in 1996.

Leading states in terms of the number of regulated water utilities are Texas (3,300), Mississippi (740), Wisconsin (573), West Virginia (421), Arizona (354), and New York (354). For investor-owned water utilities, leading state jurisdictions are Texas (1,200), Arizona (354), New York (334), North Carolina (226), Florida (210), California (199), and Pennsylvania (190).

Between the 1989 and 1995 surveys, the number of regulated investor-owned utilities declined by 445 utilities (10 percent); the total number of regulated utilities declined by 1,398 utilities (14 percent).

States in which the number of regulated water utilities (including investor-owned utilities) declined by a substantial amount include Arizona, Connecticut, Indiana, New York, North Carolina, Pennsylvania, and Texas. Commission sources suggest that mergers and acquisitions were the leading cause of the decline. Systems rarely cease operations altogether. However, transfers to unregulated ownership forms and changes in commission jurisdiction also can contribute to the decline in the number of regulated utilities. A few states, including Mississippi and Oregon, had substantial increases in the number of utilities under their jurisdiction. Nebraska's gain is noteworthy because jurisdiction for the water industry was initiated in 1994.

The decline in the number of regulated utilities is consistent with an anticipated trend in industry consolidation. Mergers and acquisitions within both the public and private segments of the industry will gradually reduce the number of regulated utilities. However, the population served by regulated utilities will not necessarily decline as a result of reductions in the total number of regulated utilities.

Despite the decline in the number of regulated water utilities, water utility regulation continues to rise in importance on the agendas of many state commissions.[58] Economic regulation of water utilities is important given monopoly power, rising costs, structural change, and a degree of uncertainty about the industry's future.

Capacity-Development Policies

The commissions, which are well aware of the precarious condition of many small water systems, can and have addressed capacity development through three basic strategies. The first strategy involves slowing the creation of new water systems. State regulations can create substantial barriers to entry for new water systems. Many of the state commissions, as well as the state drinking water agencies, are tightening the certification process and more carefully scrutinizing the financial, managerial, and technical competencies of proposed new systems.

The second strategy involves procedural simplification for small water systems to lower the administrative cost of regulation and enhance regulatory compliance. This strategy includes simplifying filing and reporting procedures. In some cases, commission staff members directly assist managers of small water utilities in meeting procedural requirements. Some of the commissions have used alternative regulatory methods, such as operating ratios, to further simplify the process and address the unique needs of small systems. Regulatory simplification treats one of the primary symptoms of small-system capacity problems (that is, regulatory compliance), but it does not necessarily treat the underlying capacity problem (that is, lacking economies of scale).

The third strategy involves structural change in the water supply industry. As noted in a report of the National Regulatory Research Institute, the least-cost solution to regulatory compliance and other problems for many systems can be found only through structural change, namely consolidation.[59] The downward trend in the number of water systems suggests that ownership consolidation may be occurring in the industry. Consolidated systems may or may not be physically interconnected. While physical interconnection yields significant economies of scale, common management of noninterconnected systems directly addresses financial, managerial, and technical capacity issues and can yield significant economies.

Many of the commissions have played an active role in this area by encouraging and approving mergers and acquisitions. Some of the commissions provide specific incentives, such as acquisition adjustments. Certain ratemaking practices, including single-tariff pricing, also can provide incentives for acquisitions and, perhaps, the formation of regional water systems. Larger systems interested in acquiring smaller systems tend to favor rate consolidation (sometimes with surcharges).

[58] In the late 1990s, however, water issues must compete for the attention of regulators with major restructuring issues in the energy and telecommunications sectors.
[59] Beecher, Dreese, and Landers (1992).

In general, modern public policies affecting the water-supply industry, including regulatory policies, appear to support the consideration of structural options (including consolidation) that will help water systems achieve economies of scale. The emphasis on water system capacity at the federal, state and local levels will make it harder for providers to get operating certificates, water-supply permits, and special financing. Explicitly or implicitly, growth management policies in some states are calling for consolidation of water supply through interconnection with existing systems. Public policy also appears to emphasize the importance of establishing and maintaining water systems for which the population served can support the cost of water service. Thus, institutional factors also are playing a role in reducing the number of water systems.

8. Commission Survey

State public utility staff members at all of the state public utility commissions with jurisdiction for water utilities (that is, forty-five state commissions), were surveyed about the issue of single-tariff pricing in early 1996. This research was conducted by Dr. Janice Beecher on behalf of the Florida Public Service Commission. The survey was first sent by telefax in January and follow-up telephone calls were made in late January and early February to ensure the completeness and accuracy of the survey. The commission staff members who completed the survey are knowledgeable about water utility regulation and competent to complete this particular questionnaire. A copy of the survey questionnaire is attached as Appendix D. Detailed findings can be found in Appendix E.

Additional follow-up contacts were made in 1997 and 1998 to update findings on specific cases that were pending at the time of the original survey, as well as to check for any major shifts in regulatory policy. Although no significant changes were detected, updated information is noted throughout the findings.

Relevance of Single-Tariff Pricing

Single-tariff pricing for water utilities is not necessarily a policy issue for every state public utility commission. Jurisdiction for water utilities and the presence of multi-system utilities are necessary but not sufficient conditions for consolidated rates to be an issue for a given commission. Single-tariff pricing does not become an issue until a utility or the commission initiates the use of this method. Utilities with systems that are viable on a stand-alone basis, by virtue of size and other factors, may not need or want single-tariff pricing. Even when considered or implemented, single-tariff pricing may not be considered "an issue" if it is noncontroversial.

The consideration of single-tariff pricing policy can benefit from the perspective provided in Table 10. The relevant sample for considering commission policy with regard to single-tariff pricing is comprised not of all fifty-one public utility commissions (including the District of Columbia). It is more accurate and reasonable to evaluate commission policies with regard to this issue in the context of the twenty-five commissions where multi-system water utilities operate and where the issue has been considered (including the states where single-tariff pricing had been rejected or considered but not approved). Given this context, a clear majority of affected state commissions have allowed regulated water utilities to implement single-tariff pricing (22 state commissions).

Of the remainder, the California commission has allowed partial rate consolidation. For two commissions (Maryland and Mississippi), single-tariff pricing had not been an issue but staff characterized commission policy as "case-by-case." It also is noteworthy that in one of the state's approving a single-tariff pricing structure (Idaho), the matter was "not an issue when proposed." No regulatory commission has steadfastly opposed single-tariff pricing, although many continue to review the merits on case-by-case basis.

TABLE 10
RELEVANT SAMPLE OF STATE PUBLIC UTILITY COMMISSIONS REGARDING THE ISSUE OF SINGLE-TARIFF PRICING POLICY

All state public utility commissions:	**51**
Commissions without jurisdiction for water utilities:	-6
Subtotal	**45**
Commissions without multi-system water utilities:	-15
Subtotal	**30**
Commissions for which single-tariff pricing has never been considered:	-5
Total	**25**

Source: Author's construct. Includes reclassification of Delaware as having a multi-system utility based on a 1999 survey. The total number of commissions includes the District of Columbia.

Pending cases at the time of the original survey in Massachusetts and New Jersey were decided in favor of single-tariff pricing. Soon after, in two significant cases, the Indiana and New Hampshire commissions approved rate consolidation proposals (in 1997 and 1998 respectively). Since the original survey, the Delaware commission approved single-tariff pricing in conjunction with an acquisition that created the state's only multi-system utility (as reflected in Table 10 and elsewhere).

General Findings

The detailed results of the original survey are reported in Appendix E (Tables E1 through E4). The data are reasonably complete for all fifty-one public utility commissions (including the District of Columbia commission). Detailed data on specific utilities are incomplete from a few states because of the difficulty in compiling these data.

As noted in the tables, six public utility commissions do not have jurisdiction for water utilities ("NJ"). In sixteen (16) of the states with jurisdiction for water utilities, staff had observed that no multi-system water utilities were in operation (including Delaware at the time of the original survey). This finding also was established in the *1995 Inventory Report*, which was used to supplement this survey. For the remainder of the survey, responses for these sixteen states were recorded as "NA," or "not applicable."

Thirty (30) state commissions regulate multi-system water utilities, where single-tariff pricing is a potential issue. Of the thirty (30) commissions with multi-system water utilities, twenty-two (22) have approved single-tariff pricing for one or more utilities, including partial consolidation. California regulators have allowed partial consolidation subject to further deliberations. Seven commissions (7) have not directly addressed this issue. As already noted, these findings have been revised since the original survey to update the findings for five states (Delaware, Indiana, Massachusetts, New Hampshire, and New Jersey) where pending and recent cases have been decided in favor of single-tariff pricing (in Massachusetts, partial consolidation already had occurred).

Of the twelve (12) commissions that had not approved single-tariff pricing at the time of the original survey, three explanations were provided: single-tariff pricing had not been an issue (7 commissions), a proposal for single-tariff pricing was rejected (1 commission), and single-tariff pricing had been considered but not specifically approved (4 commissions). The Indiana commission reportedly rejected single-tariff pricing because of cost-of-service concerns. No commission staff member reported that a statute or policy expressly prohibited single-tariff pricing. However, the Florida survey response indicated that legislation had been proposed to limit the use of rate consolidation to interconnected systems; the legislation was not adopted.

Specific Findings

Data were provided for 213 multi-system utilities, of which 129 had implemented a full version of single-tariff pricing and 20 had implemented partial rate consolidation (that is, single-tariff pricing for all but a few systems or single-tariff pricing for groups of systems within the utility but not for the utility as a whole). Partial rate consolidation in some cases is used to phase-in the single tariff. The survey does not include the multi-system utilities in Texas (estimated at 200 to 300 utilities) or all of the multi-system utilities in Florida (estimated at 60 to 70 utilities) because these data were not readily available. Other states also may have some additional multi-system utilities for which data were not reported. The survey also excludes publicly owned water utilities, with the exception of West Virginia for which data were available for commission-regulated public service districts.

Several states have jurisdiction for only one multi-system water utility. States with more than ten multi-system utilities are Connecticut, Florida, Louisiana, North Carolina, Texas, Washington, and West Virginia. Of these states, only Louisiana has not approved single-tariff pricing.

Based on the available data from the original survey, the number of systems managed by the multi-system utilities ranges from 2 to 201. The average number of systems reported is 11; the median number of systems was 4. The number of connections for the smallest system ranged from 2 to 30,000 with a mean value of 751 and a median value of 30 (based on data for 115 systems). The number of connections for the largest system ranged from 18 to 329,000, with a mean value of 11,615 and median value of 257 (based on data for 115 utilities). The earliest date reported for adopting single-tariff pricing was 1958; the most recent date was 1995 (disregarding the pending or subsequent cases). The average and median time frame for adopting single-tariff pricing was the early 1980s.

At the time of the survey, rate consolidation had been partially implemented for several utilities. In some cases, all but a few systems had been placed under a single tariff; in other cases, the single tariff was being phased-in gradually over time. Only one commission reported that monitoring and evaluation of single-tariff pricing had occurred in the form of reexamining past rate cases (West Virginia).

Characteristics of Single-Tariff Utilities

Single-tariff utilities appear to have some distinguishing features in comparison to multi-system utilities that do not use single-tariff pricing. Data were provided for 213 utilities, of which 129 implemented single-tariff pricing or partial rate consolidation. Data on the approximate number of systems were provided for 203 utilities (149 single-tariff utilities and 54 multi-system utilities without single-tariff pricing). Data on the smallest and largest systems in terms of service connections were available for 115 utilities (81 single-tariff utilities and 34 multi-system utilities without single-tariff pricing). All available data were used to preserve as much information as possible for the analysis. For data reported as a range of values, an average was used (for example, "8 to 9" was replaced with 8.5). For data reported as "<5," a value of 4.5 was used.

The sample is incomplete and nonrandom, so findings based on the available data are not generalizable. Substantial missing data will affect the results of any analysis. However, the data represent a sizable portion of the multi-system utilities regulated by the state commissions. Also, many states reported a mixture of systems with and without single-tariff pricing. Certain observations can be drawn from the data that should lead to further consideration and analysis.

As reported in Table 11 (and Table E2), single-tariff systems and multi-system utilities appear to differ in terms of the number of systems that comprise them, smallest connections, and largest connections. For single-tariff systems, the median number of systems was 5 (average value of 13); for multi-system utilities without single-tariff pricing the median number of systems was 4 (average value of 6). The connection data reveal more striking patterns. Along every measurement (except for the minimum of 2 connections for the smallest systems for both utility types), single-tariff utilities appear to be much smaller in terms of both smallest and largest systems based on connections.

This finding is very consistent with the perception that single-tariff pricing is most needed, and perhaps most justified, when numerous very small water systems are involved. These data may indicate that commission approval of single-tariff pricing takes into account these basic descriptive characteristics. This is not to suggest, however, that single-tariff pricing only has been (or should be) approved for utilities made up of very small systems. In fact, some of the more recent decisions affirming single-tariff pricing have involved utilities with systems that are fairly substantial in size.

Table 11
Comparative Analysis of Multi-System Utilities With and Without Single-Tariff Pricing

Utilities	Number of Utilities Reported		Approximate Number of Systems				Smallest System (N Connections)				Largest System (N Connections)			
	Approx. Systems	Connec-tions	Mini-mum	Maxi-mum	Aver-age	Median	Mini-mum	Maxi-mum	Aver-age	Median	Mini-mum	Maxi-mum	Aver-age	Median
All Multi-System Utilities	203	115	2	201	11	4	2	30,000	751	30	18	329,000	11,615	257
Multi-System Utilities With Single-Tariff Pricing	149	81	2	201	13	5	2	2,400	122	20	18	97,000	5,651	193
Multi-System Utilities Without Single-Tariff Pricing	54	34	2	32	6	4	2	30,000	2,251	82	26	329,000	25,824	1,254

Source: Table E1. Not adjusted for cases pending at the time of the survey or subsequent cases in which consolidated rates were approved for individual utilities in Delaware, Indiana, Massachusetts, New Hampshire, and New Jersey.

INSERT PAGE 56

Arguments in Favor of Single-Tariff Pricing

In the course of the survey, regulatory commission staff members were asked to consider key arguments for and against the adoption of single-tariff pricing. Various reasons for commission approval of rate consolidation were provided in the survey. Table E1 provides the primary reasons for approval. Cost savings were frequently mentioned. As reported in Table E3, commission staff members also were asked to identify the arguments that influenced their commissions' deliberations or policies regarding rate consolidation.

These data reflect only staff member views, not necessarily the views or policies of the commissions. Twenty-one (21) commission staff members responded to this portion of the survey. The data exclude thirty commissions where, at the time of the survey, single-tariff pricing had not been an issue and staff views were not elicited.[60] Staff could cite more than one argument and no weighting or ranking of arguments was required. In decreasing order of mentions (indicated in parentheses), commission staff indicated agreement with the following arguments in favor of single-tariff pricing:

- Mitigates rate shock to utility customers (17)
- Lowers administrative costs to the utilities (16)
- Provides incentives for utility regionalization and consolidation (15)
- Physical interconnection is not considered a prerequisite (13)
- Addresses small-system viability issues (13)
- Improves service affordability for customers (12)
- Provides ratemaking treatment similar to that for other utilities (10)
- Facilitates compliance with drinking water standards (9)
- Overall benefits outweigh overall costs (9)
- Promotes universal service for utility customers (8)
- Lowers administrative cost to the commission (8)
- Promotes ratepayer equity on a regional basis (6)
- Encourages investment in the water supply infrastructure (5)
- Promotes regional economic development (3)
- Encourages further private involvement in the water sector (2)
- Other: Can be consistent with cost-of-service principles (1) and found to be in the public interest (1)

Staff members also noted that single-tariff pricing could be consistent with cost-of-service principles (New York), that separating small-system costs may not always be cost-effective (Virginia), and that the genesis for the issue was regulatory simplification (California). Mitigating rate shock also was equated with "rate stability" (Indiana). Vermont regulators found that single-tariff pricing addressed small system viability issues and generally was in the public interest, approving the method over the objections of staff

[60] Excluded were 6 commissions without jurisdiction for water utilities, 16 commissions without jurisdiction for multi-system water utilities ("not applicable"), and 8 commissions that regulate multi-system utilities but where single-tariff pricing has not been an issue (including the Idaho commission, where single-tariff pricing was approved for one utility but not an issue of significance).

members concerned about subsidization issues. Typically, more than one argument affects commission deliberations regarding rate consolidation.

Arguments Against Single-Tariff Pricing

Commission staff members also evaluated the key arguments against rate consolidation. Various reasons for commission disapproval of single-tariff pricing were provided. Table E1 provides the primary reason for the disapproval. Cost-of-service issues were frequently mentioned, although some staff also indicated that single-tariff pricing could be consistent with cost-of-service principles. As reported in Table E4, commission staff members also were asked to identify the arguments that influenced their commissions' deliberations or policies regarding rate consolidation.

These data reflect only staff member views, not necessarily the views or policies of the commissions. As mentioned earlier, twenty-one (21) commission staff members responded to this portion of the survey based on their experience with the issue of single-tariff pricing for multi-system utilities. Staff could cite more than one argument and no weighting or ranking of arguments was required. In decreasing order of mentions (indicated in parentheses), commission staff indicated agreement with the following arguments against single-tariff pricing:

- Conflicts with cost-of-service principles (14)
- Provides subsidies to high-cost customers (12)
- Not acceptable to all affected customers (10)
- Considered inappropriate without physical interconnection (8)
- Distorts price signals to customers (7)
- Fails to account for variations in customer contributions (6)
- Justification has not been adequate in a specific case (or cases) (6)
- Discourages efficient water use and conservation (4)
- Encourages growth and development in high-cost areas (4)
- Undermines economic efficiency (3)
- Provides unnecessary incentives to utilities (2)
- Not acceptable to other agencies or governments (2)
- Insufficient statutory or regulatory basis or precedents (2)
- Overall costs outweigh overall benefits (2)
- Encourages overinvestment in infrastructure (1)

Regarding unacceptability to other agencies or governments, the California staff member noted that opposition to single-tariff pricing had come from other utilities.

9. Commission Policies on Rate Consolidation

As already noted, twenty-two (22) state commissions have allowed regulated water utilities to implement single-tariff pricing. Single-tariff pricing is generally accepted in eight (8) states, as summarized in Table 12 and Figure 10 (and detailed in Table E1). Texas commission staff members noted that single-tariff pricing was accepted "and preferred." In fact, the Texas commission provides a simplified procedure for merging the rates of acquired systems with the rates of the acquiring utility. While the regulated water utility usually requests consolidated rates, at least one commission (New York) has imposed its use. Pennsylvania staff noted that the use of single-tariff pricing has evolved from its application on the basis of physical interconnection to its application on the basis of common ownership.

Based on the updated survey findings, staff members at seventeen (17) commissions characterized the policies of their commissions as "case-by-case," indicating that the use of single-tariff pricing must be justified for every specific application (even when the policy is "generally accepted"). In many states, only some of the multi-system utilities under commission jurisdiction are implementing single-tariff pricing. In fourteen (14) of the case-by-case commissions, single-tariff pricing has been approved (including the five recent cases decided in favor of single-tariff pricing). In California, regulators have approved partial rate consolidation. In the two (2) other case-by-case commissions, single-tariff pricing has not been approved or considered in the context of a regulatory proceeding.

Commission Decisions

The experience of West Virginia-American Water Company stands as one of the least controversial and most enduring examples of single-tariff pricing. Implementation of single-tariff pricing has played a role in the company's expansion. A case study of the West Virginia experience appeared in a 1984 issue of the *American Water Works Association Journal*.[61]

In its order, the West Virginia Public Service Commission considered the consistency of single-tariff pricing with the commission's general regulatory obligations and operating principles, finding that:

1. The company's single tariff pricing proposal resulted in a just, reasonable, sufficient and nondiscriminatory rate for all the customers of the company.
2. Each customer will pay the same rate for a like and contemporaneous service made under the same or substantially similar circumstances and conditions.

[61] Limbach (1984).

Table 12
Summary of State Public Utility Commission Policies on Single-Tariff Pricing for Water Utilities

Commission Policy	State Commissions	
Generally Accepted (8)	Connecticut	Pennsylvania
	Missouri	South Carolina
	North Carolina	Texas
	Oregon	Washington
Case-By-Case (17)	Single-Tariff Pricing Has Been Approved (14)	
	Arizona	New Hampshire (d) (f)
	Delaware (a)	New York
	Florida	New Jersey (e) (f)
	Idaho (not an issue)	Ohio
	Illinois	Vermont
	Indiana (b) (f)	Virginia
	Massachusetts (c) (f)	West Virginia
	Single-Tariff Pricing Has Not Been Approved (3)	
	California (g)	
	Maryland (not an issue)	
	Mississippi (not an issue)	
Never Considered (5)	Iowa	Maine
	Kentucky	Wisconsin
	Louisiana	
Not Applicable – No Multi-System Water Utilities (15)	Alabama	Nevada
	Alaska	New Mexico
	Arkansas	Oklahoma
	Colorado	Rhode Island
	Hawaii	Tennessee
	Kansas	Utah
	Montana	Wyoming
	Nebraska	
No Jurisdiction for Water Utilities (6)	Georgia	North Dakota
	Michigan	South Dakota
	Minnesota	Washington, D.C.

Source: Author's construct based on survey of state public utility commission staff members, January-February 1996 and subsequent contacts with the commissions (including a follow-up survey in early 1999).

(a) Reclassified from "not applicable" following an acquisition with approval of consolidated rates.
(b) Since the original survey, a case was decided in favor of single-tariff pricing (previously rejected).
(c) A pending case at the time of the original survey was decided in favor (partial consolidation previously).
(d) Since the original survey, a case was decided in favor of single-tariff pricing.
(e) A pending case at the time of the original survey was decided in favor.
(f) Characterization of commission policy as "case-by-case" was unchanged following the recent decisions.
(g) Partial consolidation with possible phase-in of single-tariff pricing. A case was pending in 1999.

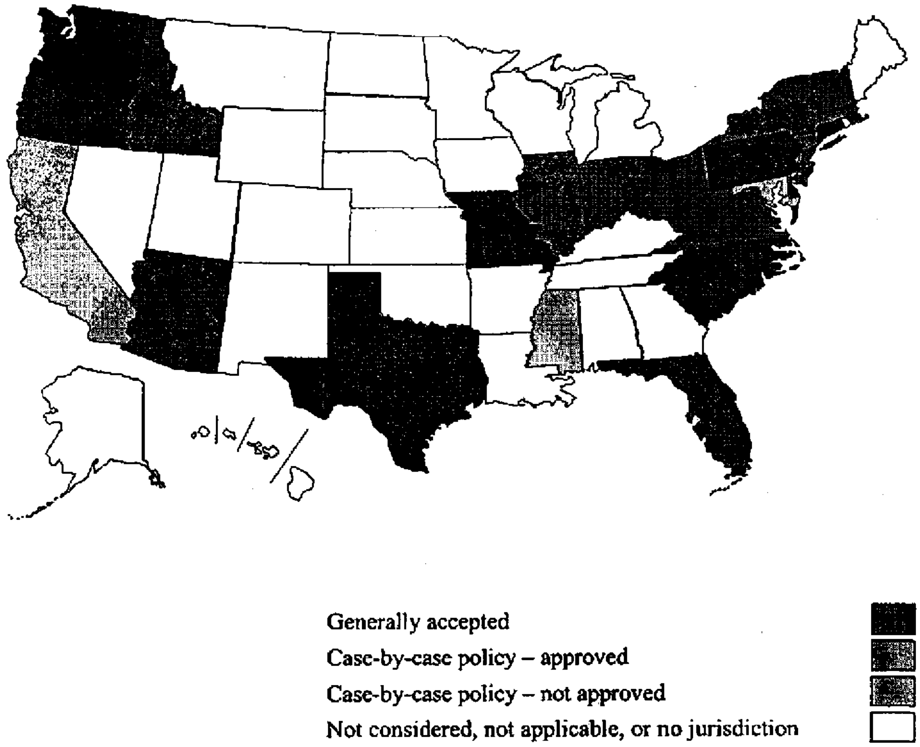


Figure 10. Summary of Commission Policies on Rate Consolidation.

3. The approval of the company's proposal was in compliance with the commission's duty to regulate utilities of this state in order to provide the availability of adequate, economical, and reliable utility services to encourage the well planned development of the utility resources in a manner consistent with the state needs and in a way consistent with the productive use of the state's energy resources.
4. Single tariff pricing strikes a reasonable balance in the interest of current and future water consumers, the general interest of the state's economy, and the interest of West Virginia Water Company.[62]

[62] Order of the West Virginia Public Service Commission as cited in Limbach (1984), 55.

In a 1986 order, the Pennsylvania Public Utility Commission approved single-tariff pricing for Western Pennsylvania Water Company (1986) and provided several pragmatic reasons for approving this pricing strategy.[63] First, a larger rate and revenue base ameliorates the impact of major capital additions needed from time to time in every service area. Second, a larger revenue base promotes flexibility in timing and financing major capital additions. Third, the impact of instability resulting from changes in sales volumes is mitigated when the effect of such volumetric factors is spread over a larger economic base. Finally, the reduction of the number of accounting units and the number of individual rate filings result in administrative efficiency with a potential to reduce costs to ratepayers.

Ten years later, in a general proceeding on acquisition policy, the Pennsylvania Commission stated its belief "that every system and every ratepayer in the Commonwealth will eventually be in need of specific service improvements and at that point, the true benefits of single tariff pricing will be realized by all citizens in the Commonwealth."[64] The Commission now views single-tariff pricing as a central component of acquisition incentives provided to jurisdictional utilities.

Although single-tariff pricing has been approved without much consternation in some jurisdictions, in others the level of controversy has been much more pronounced. Consumer advocates, local governments, large-volume users, and commission staff members (even within agencies) have at times been deeply divided on this issue.

The regulatory commissions have struggled in particular with whether or not *physical interconnection* among water systems should be a prerequisite for single-tariff pricing.[65] As noted by the Massachusetts Department of Public Utilities, physical interconnection is not necessarily required: "[S]everal factors (viz., the contiguity of the communities served in that zone; the commonality of personnel for meter-reading, operations, maintenance, and construction duties; and administrative convenience) are decisive in favor of treating the [two communities] as a single zone . . ."[66]

Similarly, the Florida Public Service Commission once concluded that state law supports the view that multi-system utilities can be considered a single system because the utility's facilities and land are *functionally related* (in administrative, operational, and managerial terms); even without physical interconnection.[67] An analogy provided in the case was that the multi-system utility operations were like a "wagon wheel," where the separate service territories are the spokes and utility management is the rim holding them together.

[63] Pennsylvania Public Utility Commission, Order in Docket R-850096, Western Pennsylvania Water Company (1986), 148.

[64] Pennsylvania Public Utility Commission, Order in Docket M-00950686, Policy Statement Re: Incentives for the Acquisition and Merger of Small, Nonviable Water and Waste Water Systems (1996).

[65] Physical interconnection in the other industries may be the reason why pricing across larger regions tends to prevail.

[66] Massachusetts Department of Public Utilities, Order in Docket No. 90-146, Massachusetts-American Water Company (1990), 3-4. See also MA DPU 95-118 (1996).

[67] Florida Public Service Commission, Order No. PSC-96-1320-FOF-WS, Docket No. 950495-WS, Southern States Utilities (1996).

Following an appeal of the Florida order, however, the District Court held that rate consolidation need not be conditioned on a finding by the commission that the systems involved are functionally related. "Because we decide that the determination of functional relatedness is not controlling on the issue of whether uniform rates can be set," noted the Court, "we express no opinion on whether the utility systems involved in this rate case were 'functionally related.'"[68]

In a 1993 case, the Illinois-American Water Company articulated the variety of ways in which the systems of a multi-system utility are *operationally related:*

> All operation and maintenance and construction activities are performed on a uniform basis throughout the five districts... All five districts utilize similar facilities, such as pumping stations and purification plants, transmission and distribution mains, storage reservoirs, service lines and meters... All five districts utilize the same engineering and construction standards, maintenance programs, operating procedures, inspection programs, budgeting and accounting procedures, types of materials and supplies and management structure... All five districts utilize the services of the American Water Works Service Company (the "Service Company"), which provides, pursuant to a contract with the Company, support to Illinois-American personnel in the areas of accounting, engineering operations, rate design, regulatory practices, finance, water quality, information systems, personnel information and training, purchasing, insurance, safety and community relations.[69]

The company also argued that the evolving *corporate* structure of the multi-system utility is germane to these issues, as described in Illinois Commerce Commission's order:

> According to Illinois-American, another important factor supporting the adoption of single tariff pricing are the many steps the Company has taken in recent years to centralize and consolidate its operations... Illinois-American, as it presently exists, is the result of two mergers. Pursuant to the mergers, which were approved by the Commission... water systems once operated as five separate companies were merged to form a single integrated unit, rather than as five independent, stand-alone systems.[70]

Staff members of the Illinois Commerce Commission found that "Commission practices in Illinois... support the uniform rate concept."[71] In this particular proceeding, the commission approved partial rate consolidation and ordered Illinois-American to submit a proposal for company-wide single-tariff pricing.

[68] District Court of Appeal, First District, State of Florida, Decision in Case No. 96-447 (June 10, 1998), 1.
[69] Illinois Commerce Commission, Order Docket No. 92-0116, Illinois-American Water Company (1993).
[70] Ibid., 85.
[71] Ibid., 87.

In a parallel proceeding, Indiana-American Water Company argued before the Indiana Utility Regulatory Commission that single-tariff pricing is justified in part on the grounds that the company's districts are managed by a single corporate structure and financed through a common capital structure.[72] The Indiana Office of Consumer Counselor opposed this reasoning and the Indiana Commission rejected that particular bid for single-tariff pricing, but the company prevailed in a 1997 proceeding (discussed below).

Another rationale in the regulatory context is that rate consolidation can help reduce the frequency and complexity of rate filings by regulated firms. According to John Guastella, regulatory acceptance of single-tariff pricing as a matter of policy reduces costs associated with preparing separate cost-of-service studies to allocate common costs among the separate systems, and thus significantly reduces the cost of utility rate filings.[73] A related point is that rates under a single tariff are easier to communicate to customers (lowering administrative costs) and easier for customers to understand.

In some deliberations, the focus is shifted from differences in the *cost of service* to comparability in the *value of service* that utility customers receive regardless of their spatial location. Indiana-American Water Company has argued that, "The single tariff pricing concept is supported by the fact that any one of the Company's customers, regardless of where that customer is located, expects, is entitled to and receives essentially the same service as the customers in any other district."[74]

In a recent regulatory proceeding involving the New Jersey-American Water Company, the administrative law judge echoed this argument:

> Inasmuch as all customers of New Jersey-American, be they New Jersey Commonwealth or Monmouth customers, receive comparable service on a comparable basis, it seems only appropriate that all customers be charged similarly... By distributing the burden of system improvement to all customers, the relative impact is decreased. All Company customers in the three operating groups are benefiting by the relative economics [sic] of scale and system integration and administration the unified company produces. Likewise, all customers should equally shoulder the costs involved.[75]

The New Jersey Board of Public Utilities agreed with the administrative law judge in adopting a statewide (single-tariff) price for the New Jersey-American Water Company in this particular proceeding.

[72] Richard E. Hargraves, Direct testimony in Cause No. 39595 before the Indiana Utility Regulatory Commission, Indiana-American Water Co., Inc. (1993).
[73] Guastella (1994).
[74] Hargraves (1993).
[75] New Jersey Board of Public Utilities, OAL Docket No. PUC 520795, Agency Docket No. WR-95040165, New Jersey-American Water Company (1996), 14-15.

Several of the commissions have implemented variations of single-tariff pricing or partial forms of rate consolidation. The Missouri Public Service Commission, for example, once reasoned that rate shock is the result of rate *changes* not rate *levels*. Thus the commission ordered the company in question to maintain existing rate differentials while equalizing future rate increases. By maintaining current rate differentials and equalizing rate increases, rate shock is minimized, subsidization is limited, and the company is afforded greater flexibility in timing plant additions.[76] The commission later found, for another company, that the movement toward rate consolidation was in the public interest.[77] But in a subsequent rate case, and to the understandable chagrin of the utility, the commission reiterated "that it is not committed to a specific position regarding cost recovery for capital plant additions by means of [single-tariff pricing]."[78]

In a phased approach, implementation of single-tariff pricing may occur over several commission decisions involving the same multi-system utility. According to a former regulator, a phase-in plan may be especially justified when differences in rates are "extreme."[79] A phased approach "facilitates the goal of single tariff pricing, but does not negate the requirement for future commission approval of its full implementation."[80]

Interestingly, zonal rates for *groups* of systems can be used in conjunction with a phased approach to rate consolidation. The Florida commission recently advanced a "capband" approach establishing rates for groups of systems with similar cost characteristics, reasoning that:

> First, the capband structure represents a greater move toward the long term goal of a uniform rate. It eliminates the need for separate rate structures for each individual service area under the cap. The number of rates would decrease from 56 to eight for the water facilities under the cap, and from 23 to six for the wastewater facilities. Second, as noted above, the capband structure reduces subsidies in terms of deviation from stand-alone rates. This is true both in terms of number of service areas and number of customers. Uniform rates within the band mitigate the subsidy within the band... [The capband rate structure] embraces all of the advantages of the modified stand-alone rate structure and adds the additional advantages of simplifying the rate structure by moving the utility closer to a uniform rate.[81]

[76] Missouri Public Service Commission, Order in Case No. 90-236, Missouri Cities Water Co. (1990).
[77] Missouri Public Service Commission, Order in Case Nos. WR-95-205 and SR-95-206, Missouri-American Water Company (1995).
[78] Missouri Public Service Commission, Order in Case Nos. WR-97-237 and SR-97-238, Missouri-American Water Company (1997).
[79] Wendell F. Holland, "Acquisition Incentives Encouraging Regionalization in the Water Industry" a speech made at the Great Lakes Conferences of the National Association of Regulatory Utility Commissioners in Greenbrier, West Virginia (July 11, 1995).
[80] Pennsylvania Public Utility Commission, Western Pennsylvania Water Company, 72 PUR 4th (1986), 154.
[81] Florida Public Service Commission, Order No. PSC-96-0549-PHO-WS, Docket No. 950495-WS, Southern States Utilities (1996), 78-79.

The Florida decision was appealed on a variety of grounds. As noted earlier, the Court of Appeal held that the commission need not determine that utility facilities are "functionally related" prior to approving consolidated rates. In the same decision, the Court also found that "no statute prohibits resort by the Public Service Commission (PSC)—in an appropriate case—to so-called "capbands" to fix rates that are just, reasonable, compensatory, and not unfairly discriminatory."[82] Specifically:

> Nothing inherent in the capband methodology runs afoul of the statute. The order under review sets rates [footnote omitted] so that no ratepayer's rates exceed by more than seven per cent what they would have been if each system's rates had been set on a stand alone, cost of service basis. This modest deviation from a pure cost of service basis for individual rates pales by comparison to the magnitude of inevitable intra-system subsidization. Nor is a pure cost of service basis as to each individual ratepayer mandated by a statute which directs that "the commission shall consider the value and quality of service and the cost of providing service." § 367.081(2), Fla. Stat. (1997). See *Occidental Chem. Co. v. Mayo*, 351 So. 2d 336, 340 (Fla. 1977) ("Given the multiplicity of methods suggested by the experts to allocate expenses between various users, we cannot say that the Commission departed from the essential requirements of law in relying on a range of criteria for this purpose."). A shift in the direction of "affordability" takes the value of service into account. Although using stepped rates or "capbands" requires offsetting increases and does not spread offsets perfectly evenly among households paying less than maximum rates, such use need not lead to unfairly discriminatory rates.[83]

The Indiana Utility Regulatory Commission articulated the pragmatic rationale for single-tariff pricing in the recent Indiana-American case.[84] The press release accompanying the commission's order asserts that the company's movement toward single-tariff pricing is "in the best interest of all of the customers" and that all areas will benefit in the long term by increased rate stability and mitigation of construction cost impacts. The order found that single-tariff pricing was consistent with pricing for other utility and nonutility services and that it would help the company meet demands associated with environmental compliance, infrastructure replacement, and service adequacy for customers.[85] The commission also addressed the issue of price discrimination:

> There will always be customers who over a given period of time will be required to pay higher rates than would result if they were included in some smaller or different customer group. But this does not mean undue discrimination exists so long as they are paying an equivalent price for an equivalent product. Moreover, we must not forget that all of the customers today are the beneficiaries of water facilities

[82] District Court of Appeal, First District, State of Florida, Decision in Case No. 96-447 (June 10, 1998), 1.
[83] Ibid., 13.
[84] Indiana Utility Regulatory Commission, Order in Cause No. 40703, Indiana-American Water Company (1997).
[85] Ibid., 77.

built in the past, and the cost of developing these facilities was borne in large part by earlier generations of customers.[86]

As a general rule, individual water utilities must make the case for single-tariff pricing before regulators, who consider the merits on a case-by-base basis. The Indiana-American decision also is instructive on this point because the case was made by the utility several times—and the arguments rejected—before regulators were persuaded that single-tariff pricing was in the public interest. As with many initiatives by utilities, regulatory approval often requires more than one attempt, as well as modifications to the proposed method to address the legitimate concerns of regulators and consumer advocates.

A few commissions have explicitly recognized single-tariff pricing as a policy tool. As already noted, Pennsylvania regulators have placed single-tariff in the broader context of regulatory policies to promote regionalization and specifically the acquisition of smaller, nonviable systems.[87] The general provisions of the commission's policy, appearing in Table 13, provides for the application of single-tariff pricing to the rates of acquired water systems "to the extent that is reasonable."[88]

Similarly, New York Public Service Commission staff members expect acquiring utilities to include a plan for "rate equalization" (with phase-in provisions as appropriate) as part of petitions for acquisition incentive mechanisms. [89]

Connecticut regulators have interpreted state statutes to authorize rate equalization in connection with mandated takeovers.[90] The commission also recognizes the potential use of annual price caps (to avoid rate shock) and surcharges ("so that customers of the acquiring company are not always obligated to assume full responsibility for the cost of ordered improvements to the acquired company").[91]

Implementation Strategies

Utility regulators can consider several implementation strategies if they find that rate consolidation is in the public interest. Implementing the single tariff can be accomplished in conjunction with acquisition proceedings. Utilities can phase-in single-tariff pricing for all or part of their service territory. A partial form of single-tariff pricing is to adopt a

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[86] Indiana Utility Regulatory Commission, Order in Cause No. 40703, Indiana-American Water Company (1997), 81.
[87] Holland (1995), 10.
[88] Pennsylvania Public Utility Commission, Order in Docket M-00950686, Policy Statement Re: Incentives for the Acquisition and Merger of Small, Nonviable Water and Waste Water Systems (1996).
[89] New York Public Service Commission, Order in Case 93-W-0962, Investigation of Incentives for the Acquisition and Merger of Small Water Utilities (1993), Appendix E.
[90] Connecticut General Statutes, 16-262o. According to Connecticut Statutes (16-262r), rate equalization also can be used in connection with satellite management of a smaller by a larger system.
[91] Connecticut Department of Public Utility Control, Order in Docket No. 96-03-31, DPUC Review of Water Companies Acquisitions and Transfer Processes (January 8, 1997), 27.

common fixed or customer charge for all utility customers, and alter variable charges based on variations in the cost of service. Utilities can use surcharges or other mechanisms to differentiate prices based on extraordinary costs and send customers a very specific price signal. A partial approach to single-tariff pricing is to develop tariffs based on groupings of systems or "zones" with roughly similar cost or service characteristics. Another partial approach, mentioned earlier, is to use a phased method of implementation by which rates are made more uniform over several rate adjustments.

Innovative pricing options and implementation strategies for water utilities can emerge in the context of regulatory proceedings, dispute resolution processes, and a continuing dialog among utilities, consumers, consumer advocates, and other interested stakeholders.

Related Strategies

Commissions may want to consider implementing specific regulatory strategies in conjunction with single-tariff pricing. First, regulators could use auditing or other evaluation techniques to establish that utilities are meeting efficiency and other performance goals. Second, the commission could coordinate with other regulatory agencies to promote compliance with water quality standards. Third, regulators could evaluate the long-term strategic plans of water utilities for serving customers throughout their service territories. Fourth, features of the consolidated rate could be assessed in terms of their effectiveness in promoting efficient water use and discouraging waste. Fifth, the commissions could implement a monitoring and evaluation system to assess the effects of consolidated rates on all systems and customer groups. Sixth, alternative dispute resolution could be encouraged to provide parties with a forum for participation and an opportunity to reach a settlement agreement on single-tariff pricing issues. Finally, regulators could assess utility efforts to communicate with customers about the value of water and build understanding of the rate structure.

Commission Authority

Commission authority to approve consolidated rates has been met with legal challenges in some jurisdictions. Obviously, single-tariff pricing policy must be consistent with a state's legislative framework and legally sustainable. Regulatory and legal doctrine generally seem to permit this pricing method. Legislative, judicial, or other constraints on rate consolidation would be undesirable from a public policy standpoint and undermine the ability of the regulatory commissions to craft effective policies for the water industry.

In a recent case, the New Hampshire Public Utilities Commission acknowledged the absence of a clear regulatory standard for, or prohibition of, the use of single-tariff pricing. The commission essentially asserted its policymaking authority to approve rate consolidation based on a public-interest standard:

> While New Hampshire law is replete with references to the appropriate standard for establishing a utility's rate base and rate of return, there appears to be no specific guidance on the point of rate consolidation or single tariff pricing. Thus, in the absence of any legal impediment to utilizing single tariff pricing, our decision essentially becomes one of policy that is bound only by our statutory constraints that rates be just and reasonable and that we act in the public interest. See RSAs 374:2 and 378:28.
>
> Opponents of rate consolidation in this case argue that we should adhere to our traditional ratemaking policy of cost causation. We find their position unpersuasive in this case for two reasons. First, traditional cost of service regulation already includes some measure of rate averaging in that customers are not charged the true costs of serving them on an individual basis. Second, and perhaps more important, stand alone rates in this case produce results for some customers that are well beyond the zone of "just and reasonable." One needs only to look at the stand alone rates that would result from the settlement Agreement to see just how extreme the results are when significant investments are required in a very small system. Most of the community systems are simply too small to absorb the magnitude of investments mandated by environmental enactments. However, without these investments, it is clear that the small community systems would have been unable to provide safe and adequate water service to their customers.[92]

Single-tariff pricing evolved as a legitimate policy tool and is used by a clear majority of the states that regulate multi-system water utilities. Rate consolidation is a tool that can be used on a case-by-case basis, where regulators carefully weigh the evidence before them, and as a general policy tool to encourage acquisitions and regionalization. The precarious condition of very small water systems merits the consideration of alternative regulatory approaches, including consolidated rates.

Rate consolidation will continue to focus attention on some fundamental regulatory issues: Does it result in a measurable "subsidy"? Does the subsidy constitute a form of price discrimination? Are the resultant rates just and reasonable? Do the long-term benefits of implementing single-tariff pricing, including subsidization, outweigh the costs? Regulators must be satisfied with the answers to these questions before approving a rate consolidation strategy. Generally, however, the commissions are arriving at conclusions that support the use of single-tariff pricing.

The commissions have demonstrated their policymaking authority to approve consolidated rates, as well as their capacity to consider and weigh the complex ratemaking and policy tradeoffs involved. Only the commissions can specify the circumstances appropriate for single-tariff pricing in their jurisdictions. Water utilities should continue to advance innovative pricing strategies. The commissions should continue to exercise due diligence in approving water rate structures that serve the public interest.

[92] New Hampshire Public Utilities Commission, Order in Docket DR 97-058, Pennichuck Water Works, Inc. (1998).

Table 13
Pennsylvania Public Utility Commission
Policy Statement on Acquisition Incentives

Title 52, Part I, Chapter 69

Incentives for Acquisition and Merger of Small Nonviable Water Utilities--
Statement of Policy

§ 69.711. ACQUISITION INCENTIVES

(a) General

To accomplish the goal of increasing the number of mergers and acquisitions to foster regionalization, the Commission will consider the acquisition incentives at subsection (b). However, the following parameters must first be met in order for Commission consideration of a utility's proposed acquisition incentive. It should be demonstrated that:

(1) The acquisition services the general public interest;

(2) The acquiring utility meets the criteria of viability which will not be impaired by the acquisition; that it maintains the managerial, technical, financial capabilities to safely and adequately operate the acquired system, in compliance with the Public Utility Code, the Sate Drinking Water Act, and other requisite regulatory requirements on a short and long term basis;

(3) The acquired system has less than 3300 customer connections; the acquired system is not viable; it is in violation of statutory or regulatory standards concerning the safety, adequacy, efficiency or reasonableness of service and facilities; and that it has failed to comply within a reasonable period of time, with any order of the Department of Environmental Protection or the Public Utility Commission;

(4) The acquired system's ratepayers should be provided with improved service in the future, with the necessary plant improvements being completed within a reasonable period of time;

(5) The purchase price of the acquisition is fair and reasonable and the acquisition has been conducted through arm's length negotiations; and

(6) The concept of single tariff pricing should be applied to the rates of the acquired system, to the extent that is reasonable. Under certain circumstances of extreme differences in rates, and/or affordability concerns, consideration should be given to a phase-in of the rate difference over a reasonable period of time.

Table 13 (continued)

(b) Acquisition Incentives

In its efforts to foster acquisitions of suitable water and sewer systems by viable utilities when such acquisitions are in the public interest, the Commission seeks to assist these acquisitions by permitting the use of a number of regulatory incentives. Accordingly, the Commission will consider the following acquisition incentives:

(1) Rate of Return Premiums - Additional rate of return basis points may be awarded for certain acquisitions and for certain associated improvement costs, based on sufficient supporting data submitted by the utility within its rate case filing;

(2) Acquisition Adjustment - In cases where the acquisition costs are greater than the depreciated original cost, that reasonable excess may be included in the rate base of the acquiring utility and amortized as an expense over a 10-year period;

(3) Deferral of Acquisition Improvement Costs - In cases where the plan improvements are of too great a magnitude to be absorbed by ratepayers at one time, rate recovery of the improvement costs may be recovered in phases. There may be a one time treatment (in the initial rate case) of the improvement costs but a phasing-in of the acquisition, improvements and associated carrying-costs may be allowed over a finite period; or.

(4) Plant Improvement Surcharge - Collection of a different rate from each customer of the acquired system upon completion of the acquisition could be implemented to temporarily offset extraordinary improvement costs. In cases where the improvement benefits only those customers who are newly acquired, the added costs may be allocated on a greater than average level (but less than 100%) to the new customers for a reasonable period of time, as determined by the Commission.

(c) Procedural Implementation

The appropriate implementation procedure for the acquisition incentives listed would be to file the request during the next filed rate case. In the case of the first incentive, for example, the rate of return premium, appropriate supporting data should be filed within the rate of return section in order for Commission evaluation of its applicability. The rate of return premium as an acquisition incentive may be the most straightforward and its use is encouraged.

Other appropriate incentives may be considered by this Commission, provided they meet the parameters listed at subsection (a). Acquisition incentive requests will be considered on a case by case basis. In acquisition incentive filings, the burden of proof rests with the acquiring utility.

Source: Pennsylvania Public Utilities Commission, Incentives for Acquisition and Merger of Small Nonviable Water Utilities: Statement of Policy (February 28, 1996).

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APPENDIX A
GLOSSARY OF TERMS

Block rate. A billing rate applied to water usage that varies according to blocks of water usage (measured in gallons or cubic feet). See *uniform rate, decreasing-block rate,* and *increasing block rate.*

Common-management costs. Costs that are incurred on the basis of the joint operation of multiple systems. Costs under common management, given management economies of scale and scope, should be less for the utility than the sum of **stand-alone** costs for all of the operated systems.

Decreasing-block rate. A *variable rate* that decreases with additional blocks of water usage. See *uniform rate and increasing-block rate.*

Equity. A condition under which costs have been fairly allocated among customer groups consistent with cost-of-service and *efficiency* criteria. See *horizontal equity, vertical equity,* and *subsidy.*

Efficiency. A condition under which prices charged, and quantities produced and used, are optimal (that is, not too low or too high).

Fixed charge. The portion of a customer's water bill that does not vary with water usage. Fixed charges often are used to recover administrative and other recurring costs that are not determined by water usage. The fixed charge may include a minimal water allowance, above which a *variable rate* is applied.

Horizontal equity. A condition under which customers that impose similar costs on the utility system pay similar prices for comparable utility services. See *vertical equity.*

Intergenerational equity. A condition under which one generation of customers does not pay for costs imposed on the utility system by another group of customers. See *horizontal equity* and *vertical equity.*

Increasing-block rate. A *variable rate* that increases with additional blocks of water usage. See *uniform rate* and *decreasing-block rate.*

Investor-owned (or privately owned) utility. A utility owned and operated by a private firm on a for-profit basis. See *publicly owned utility.*

Just and reasonable. A concept used to evaluate utility rates related to the concept of **undue discrimination.**

Multisystem utilities. Public or private utilities that operate two or more water systems serving distinct service territories; systems may or may not be physically interconnected.

Municipal-unit doctrine. The treatment of a municipality as a distinct service territory and unit for cost allocation and ratemaking purposes (that is, "city-based" rates).

Phase-in (rates). Implementation of a significant change in rate levels or rate design in phases, rather than at once, in order to reduce rate shock to customers and revenue instability to the utility. Reflects the principle of gradualism.

Physically interconnected systems. Water systems joined by a system of pipes and pumps for transporting water (usually treated water) from one system to another.

Primacy agency. A state agency responsible for regulating community and noncommunity water systems to ensure compliance with federal drinking-water standards established under the Safe Drinking Water Act.

Privately owned (or investor-owned) utility. A utility owned and operated by a private firm on a for-profit basis. See *publicly owned utility.*

Public Utility Commission (PUC). A state agency responsible for regulating the rates and profits of public utility monopolies.

Publicly owned utility. A utility owned and operated by a governmental agency, such as a municipality, on a nonprofit basis. See *privately owned utility.*

Safe Drinking Water Act (SDWA). The federal statute that establishes drinking-water standards for community and noncommunity water systems. Substantial amendments to the SDWA were enacted in 1986 and 1996.

Service territory. The geographic area served by a public utility; a utility's service territory may or may not correspond to geopolitical boundaries.

Single-tariff pricing. Single-tariff pricing is the use of a unified rate structure for multiple water (or other) utility systems that are owned and operated by a single utility, but that may or may not be physically interconnected. Under single-tariff pricing, all customers of the utility pay the same rate for service, even though the individual systems providing service may vary in terms of operating characteristics and stand-alone costs.

Stand-alone pricing. Pricing based on the costs that a commonly owned or managed water system would incur if it replicated the same services and functions on a basis completely independent of the parent utility and other systems.

Subsidy. A transfer of welfare from one group of customers to another that is not based on differences in the cost of serving the different customer groups.

Tariff. The official rate schedule document specifying all of a utility's rates and charge; the tariff must be approved by appropriate state or local governing bodies.

Undue discrimination. Price differentiation that is not based on variations in the cost of service.

Uniform rate. A *variable* rate that does not change with the total amount of water usage.

Variable rate. The billing rate applied on a per gallon or per cubic foot basis to the amount of water used by customers during the billing period. The variable rate multiplied by water usage determines the portion of a customer's water bill that varies with water usage.

Vertical equity. A condition under which customers that impose different costs on the utility system pay different prices for utility services based on the relevant cost differences. A related concept is **undue discrimination.**

Water system. An infrastructure system for withdrawing, transporting, treating, storing, and distributing water to a defined service territory.

Water utility. A public or private entity that owns and operates one or more *water systems* and typically charges customers for the cost of providing water service. In *multi-system* utilities, two or more water systems are owned and operated by the utility and they may or may not be *physically interconnected.*

Zonal Pricing. Differentiation in rates according to substantial differences in the cost of serving different areas. Zones generally are defined in spatial terms and represent geographic clusters of customers with similar cost characteristics.

APPENDIX B
SELECT COMMISSION ORDERS ON SINGLE-TARIFF PRICING

California

California Public Utilities Commission. Decision No. 89-06-007. Hillview Water Company, Inc. June 7, 1989.

Connecticut

Connecticut Department of Public Utility Control. Docket No. 86-12-08. Connecticut-American Water Company. June 2, 1987

_________. Docket No. 89-03-22. Connecticut-American Water Company. September 21, 1987.

Florida

Florida Public Service Commission. In re Rate Setting Procedure and Alternatives for Water and Sewer Utilities. 1989.

_________. Docket No. 920100-WS. Southern States Utilities, Inc. November 2, 1993.

_________. Docket No. 930880-WS. Southern States Utilities, Inc. September 13, 1994.

_________. Docket No. 930892-WU. Venture Associates Utilities Corp. December 30, 1994.

_________. Docket No. 931122-WU. Lakeside Golf, Inc. February 9, 1995

Hawaii

Hawaii Public Utilities Commission. Docket No. 6434. GASCO, Inc. April 3, 1992.

Illinois

Illinois Commerce Commission. Docket No. 92-0116. Illinois-American Water Company. February 9, 1993.

_________. Docket No. 94-0481. Citizens Utilities Company of Illinois. September 13, 1995.

_________. Docket No. 95-0076. Illinois-American Water Company. December 20, 1995.

Indiana

Indiana Utility Regulatory Commission. Cause No. 36483. Northern Indiana Fuel & Light Company, Inc. October 1, 1981.

_________. Cause No. 36427. Terre Haute Water Works Corp. November 13, 1981.

_________. Cause No. 38880. Indiana-American Water Company. September 26, 1990.

_________. Cause No. 39595. Indiana-American Water Company. February 2, 1994.

_________. Cause No. 40703. Indiana-American Water Company. December 11, 1997.

Iowa

Iowa Utilities Board. Docket No. RPU-94-2I. ES Utilities, Inc. June 30, 1995.

Maine

Maine Public Utilities Commission. Docket Nos. 91-193 and 93-027. Michael McGovern v. Portland Water District. February 28, 1994.

Maryland

Maryland Public Service Commission. Case No. 8643. Chesapeake Utilities Corp. August 17, 1994.

Massachusetts

Massachusetts Department of Public Utilities. D.P.U. 95-118. Massachusetts-American Water Company. May 31, 1996.

Missouri

Missouri Public Service Commission. Case No. 90-236. Missouri Cities Water Company. October 12, 1990.

_________. Case Nos. WR-95-205 and SR-95-206. Missouri-American Water Company. November 21, 1995.

_________. Case Nos. WR-95-205 and SR-95-206. Missouri-American Water Company. November 21, 1995.

_________. Case Nos. WR-97-237 and SR-97-238. Missouri-American Water Company. November 6, 1997.

New Hampshire

New Hampshire Public Utilities Commission. Docket DR 97-058. Pennichuck Water Works, Inc, Request for Permanent Rates. March 25, 1998.

New Jersey

New Jersey Board of Public Utilities. Docket No. WR95040165. New Jersey-American Water Company. March 3, 1996.

New York

New York Public Service Commission. Case No. 93-W-0962. Order Instituting Proceeding and Soliciting Comments, Investigation of Incentives for Acquisition and Merger of Small Water Utilities. November 10, 1993.

Ohio

Ohio Public Utilities Commission. Case Nos. 88-716-GA-AIR et. all, 88-1011-GA-CMR. Columbia Gas of Ohio, Inc. October 17, 1989.

Pennsylvania

Pennsylvania Public Utility Commission. Order in Docket R-850096, Western Pennsylvania Water Company (January 29, 1986).

_________. Order in Docket No. M-00950686. Policy Statement Re: Incentives For The Acquisition And Merger Of Small, Nonviable Water And Waste Water Systems. February 23, 1996.

Rhode Island

Rhode Island Public Utilities Commission. Docket No. 2216. Narragansett Bay Water Quality Management District. March 24, 1995.

Texas

Texas Public Utility Commission. Docket No. 4240. Texas-New Mexico Power Company. June 2, 1982.

West Virginia

West Virginia Public Service Commission. Case No. 81-126-W-42A. West Virginia Water Company. May 26, 1982.

_________. Case No. 89-498-W-42T. West Virginia-American Water Company. May 4, 1990.

_________. Case No. 89-498-W-42T. West Virginia-American Water Company. May 24, 1990.

_________. Case No. 93-0279-W-42T. West Virginia-American Water Company. January 23, 1994.

Source: Adapted and updated from Daniel W. McGill, "Memorandum on Single-Tariff Pricing" (correspondence dated December 31, 1996).

APPENDIX C
DETAILED EXAMPLE OF SINGLE-TARIFF PRICING

Table C1
Cost-of-Capital Determination

Source of Capital	Issuance Cost ($)	End-of-year Capitalization ($)	Capitalization (percent)	Cost Rate ($)	Weighted Cost ($)
Short-term bank debt		4,800,000	7.47	14.00	1,046
Long-term debt bonds					
First-mortgage bonds					
5 3/8% series due 3/1/82	2,040	2,500,000	3.90	5.427	0.211
9 3/4% series due 5/1/95	40,544	3,000,000	4.67	9.884	0.462
10% series due 10/1/96	229,017	16,800,000	26.17	10.116	2.647
9 3/8% series due 8/1/96	83,423	7,840,000	12.21	9.474	1.157
Total long-term debt		30,140,000	46.95	9.54	4.477
Preferred stock					
10 percent	31,781	2,940,000	4.58	10.092	0.462
9 1/2 percent	19,067	1,368,000	2.13	9.602	0.204
7 1/2 percent	21,926	1,920,000	2.99	7.692	0.230
Total preferred stock		6,228,000	9.70	9.24	8.896
Common equity					
Common stock		986,073			
Capital surplus		7,172,538			
Earned surplus		14,875,670			
Total common equity		23,034,281	35.88	15.00	5.381
Total capitalization		64,202,281	100.00		11.800

Source: Adapted from Edward M. Limbach, "Single Tariff Pricing," *Journal American Water Works Association* 75 no. 9 (September 1984).

Table C2
Allocation of Expenses by District and Under Single-Tariff Pricing

Expense Per 1 Million Gallons of Pumped Water	District A	District B	District C	District D	Single-Tariff Pricing
Fuel and power	49	91	115	102	57
Chemicals	15	31	76	17	20
Total operation cost	374	2,136	2,443	789	513
Total maintenance cost	103	499	277	94	116

Source: Adapted from Edward M. Limbach, "Single Tariff Pricing," *Journal American Water Works Association* 75 no. 9 (September 1984).

Table C3
District Revenue Requirements and Effect on Average Residential Water Bill

Cost and Service Characteristics	District A	District B	District C	District D
Ratebase ($)	52,231,951	211,630	351,510	2,320,677
Rate of return (percent) ♦	11.80	11.80	11.80	11.80
Utility operating income ($)	6,163,370	24,972	41,466	273,840
Operation & maintenance expense ($)	5,835,260	173,506	139,624	806,709
Depreciation & amortization ($)	806,306	5,931	9,750	32,509
Taxes other than federal income tax ($)	1,789,540	16,527	18,728	131,035
Provision for federal income tax ($)	1,057,772	2,919	2,944	45,127
Total revenue requirement ($)	15,652,248	223,855	212,512	1,289,220
Percentage of revenue assigned to residential customers	53.03	70.86	66.4	64.67
Number of residential customers	51,651	534	558	5,180
Average residential water bill ($)♦♦	12.01	27.70	24.21	13.30
Impact of $50,000 investment on average residential bill	0.12 (1%)	15.16 (55%)	$13.59 (56%)	$1.43 (11%)

Source: Adapted from Edward M. Limbach, "Single Tariff Pricing," *Journal American Water Works Association* 75 no. 9 (September 1984).
♦ From Table C1. ♦♦ Based on 4,500 gallons per month.

Table C4
Comparison of Tariffs for Selected Districts Before and After Implementation of Single-Tariff Pricing

Usage Charge	District A ($)	District B ($)	Single-Tariff Pricing ($)
Minimum charge			
17-mm (5/8-inch) meter or smaller	6.62	13.11	7.35
20-mm (3/4-inch) meter	9.78	19.67	11.06
25-mm (1-inch) meter	16.30	32.78	18.40
40-mm (11/2-inch) meter	32.59	65.56	36.80
50-mm (2-inch) meter	52.15	104.91	58.90
80-mm (3-inch) meter	97.78	196.70	110.40
100-mm (4-inch) meter	162.96	327.85	184.00
150-mm (6-inch) meter	325.92	655.69	368.00
200-mm (8-inch) meter	521.47	1,049.11	568.80
Variable charge (per 1,000 gallons)			
First 2000 gallons/month	--	--	--
Next 28,000 gallons/month	2.597	4.526	2.74
Next 970,000 gallons/month	1.562	3.147	1.56
Next 9 million gallons/month	1.107	3.147	1.14
All more than 10 million gallons/month	0.858	3.147	0.902

Source: Adapted from Edward M. Limbach, "Single Tariff Pricing," *Journal American Water Works Association* 75 no. 9 (September 1984).

APPENDIX D

Date: 1996

(_____) ______________________________
Dr. Janice A. Beecher, Director of Regulatory Studies

University

Re:

Happy New Year! Can you help me by taking a moment to fill out this quick survey and faxing it

will make the results available to everyone.

is used to implement a single rate structure for multiple water (or other) utility

the utility pay the same rate for service, even though the individual systems providing service may

Water utilities with multiple systems are not necessarily found in every state.

1. Do any of the water **utilities** regulated by your commission have multiple water **systems** (☑)? **Yes** ☐ **No** ☐

   If No, the remaining questions are not applicable to your state. Please return the first page of the questionnaire so that your state will be represented in the survey.

2. If you answered **Yes** to Question 1, please name the multi-system water utilities, the number of systems they operate, and the approximate number of connections for the smallest and largest system operated by the utility. Use an additional sheet if necessary.

3.

		Approximate Number of Connections for the:	
Utility Name	*Total Number of Systems*	*Smallest System*	*Largest System*

3. Has your commission **approved** single-tariff pricing for any of the utilities named in Question 1 (☑)? **Yes** ☐ *Go to Question 4* **No** ☐ *Go to Question 5*

4. If your answer to Question 3 was **Yes**, please name the utilities and when the tariff was first approved. Use an additional sheet if necessary.

Utility Name	*When was the tariff first approved?*
______________________	________
______________________	________
______________________	________

5. If your answer to Question 3 was **No**, please check all of the following that apply (☑):

- ☐ Single-tariff pricing has not been an issue.
- ☐ Single-tariff pricing has been considered but not specifically approved.
- ☐ A proposal for single-tariff pricing has been rejected.
- ☐ Other: ______________________

6. Has single-tariff pricing been explicitly **prohibited** in your state by statute (☑)? **Yes** ☐ **No** ☐

When was the statute passed? __________

Please describe the nature of the prohibition: ______________________

7. Has your commission put any monitoring and/or evaluation systems in place for single-tariff pricing in cases where it has been implemented (☑)? **Yes** ☐ **No** ☐

If **Yes**, please describe: ______________________

8. If your commission **approved** single-tariff pricing, what was the **primary** reason for the approval? ______________________

9. If your commission **rejected** single-tariff pricing, what was the **primary** reason for the rejection? ______________________

10. Please characterize your commission's policy position on single-tariff pricing (☑)?
✓
- ☐ Generally accepted
- ☐ Generally not accepted
- ☐ Decided on a case-by-case basis
- ☐ Never considered

11. If single-tariff pricing has been an issue in your state, whether or not it has been implemented, please review the following arguments in favor and against single-tariff pricing and check all that have influenced your commission's deliberations or policies on the issue. Check (☑) all that apply:

Arguments in Favor of Single-Tariff Pricing

✓

- ☐ Provides incentives for utility regionalization and consolidation
- ☐ Mitigates rate shock to utility customers
- ☐ Promotes universal service for utility customers
- ☐ Promotes ratepayer equity on a regional basis
- ☐ Improves service affordability for customers
- ☐ Addresses small-system viability issues
- ☐ Facilitates compliance with drinking water standards
- ☐ Provides ratemaking treatment that is similar to that for other utilities
- ☐ Lowers administrative costs to the utilities
- ☐ Lowers administrative costs to the commission
- ☐ Promotes regional economic development
- ☐ Encourages further private involvement in the water sector
- ☐ Encourages investment in the water-supply infrastructure
- ☐ Physical interconnection is not considered a prerequisite
- ☐ Overall benefits outweigh overall costs
- ☐ Other: ____________________

Arguments Against Single-Tariff Pricing

✓

- ☐ Conflicts with cost-of-service principles
- ☐ Undermines economic efficiency
- ☐ Provides subsidies to high-cost customers
- ☐ Distorts price signals to customers
- ☐ Discourages efficient water-use and conservation
- ☐ Encourages growth and development in high-cost areas
- ☐ Encourages overinvestment in infrastructure
- ☐ Fails to account for variations in customer contributions
- ☐ Provides unnecessary incentives to utilities
- ☐ Considered inappropriate without physical interconnection
- ☐ Not acceptable to all affected customers
- ☐ Not acceptable to other agencies or governments
- ☐ Justification has not been adequate in a specific case (or cases)
- ☐ Insufficient statutory or regulatory basis or precedents
- ☐ Overall costs outweigh overall benefits
- ☐ Other: ____________________

Please provide any additional comments on another sheet. Thank you again for your assistance. I look forward to working with you in 1996.

APPENDIX E
DETAILED FINDINGS FROM COMMISSION SURVEY ON SINGLE-TARIFF PRICING

TABLE E1
Commission Policies on Single-Tariff Pricing for Water Utilities

State	Multi-System Utilities in the State (Q1)	Number of Multi-System Utilities (Q2)	Commission Approval of Single-Tariff Pricing (Q3)	Number of Utilities with Single Tariff Pricing (Q4)	Reasons for No Single-Tariff Pricing (Q5)	Has Single-Tariff Pricing Been Prohibited by Statute (Q6)	Monitor or Evaluate Single-Tariff Pricing (Q7)	Reason for Approval (Q8)	Reason for Rejection (Q9)	Commission Policy (Q10)
Alabama	No	0	NA	NA	NA	NA	NA	NA	NA	NA
Alaska	No	0	NA	NA	NA	NA	NA	NA	NA	NA
Arizona	Yes	9	Yes	2	NA	No	No	Viability of systems	NA	Case-by-case
Arkansas	No	0	NA	NA	NA	NA	NA	NA	NA	NA
California	Yes	3	No (a)	0 (a)	Considered but not approved	No	No	NA	NA	Case-by-case
Colorado	No	0	NA	NA	NA	NA	NA	NA	NA	NA
Connecticut	Yes	12	Yes	10	NA	No	No	Mitigate rate shock	NA	Generally accepted
Delaware (b)	No	0	No	NA	NA	NA	NA	NA	NA	NA
Florida	Yes	60 to 70	Yes	20	NA	No (c)	No	Affordability; revenue stability; rate normalization for construction projects; simplified bookkeeping; reduced rate case expense.	NA	Case-by-case
Georgia	NJ	NJ	NJ	NJ	NJ	NJ	NJ	NJ	NJ	NJ
Hawaii	No	0	NA	NA	NA	NA	NA	NA	NA	NA
Idaho	Yes	1	Yes	1	NA	No	No	Not an issue when proposed	NA	Case-by-case
Illinois	Yes	4	Yes	2	NA	No	No	Reasonably consistent costs and source of supply	Difference in source-of-supply costs	Case-by-case

NA = Not applicable; NR = Not reported; NJ = No jurisdiction

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Commission Policies on Single-Tariff Pricing for Water Utilities

State	Multi-System Utilities in the State (Q1)	Number of Multi-System Utilities (Q2)	Commission Approval of Single-Tariff Pricing (Q3)	Number of Utilities with Single Tariff Pricing (Q4)	Reasons for No Single-Tariff Pricing (Q5)	Has Single-Tariff Pricing Been Prohibited by Statute (Q6)	Monitor or Evaluate Single-Tariff Pricing (Q7)	Reason for Approval (Q8)	Reason for Rejection (Q9)	Commission Policy (Q10)
Indiana	Yes	2	No	0	Rejected (later approved)	No	NA	NA	Cost-of-service; cost-based rates	Case-by-case
Iowa	Yes	1	No	0	Not an issue	No	NA	NA	NA	Never considered
Kansas	No	0	NA	NA	NA	NA	NA	NA	NA	NA
Kentucky	Yes	1	No	0	Not an issue	No (d)	NA	NA	NA (d)	Never considered
Louisiana	Yes	10	No	0	Not an issue	No	NA	NA	NA	Never considered
Maine	Yes	1	No	0	Not an issue	No	NA	NA	NA	Never considered
Maryland	Yes	2	No	0	Not an issue	No	NA	NA	NA	Case-by-case
Massachusetts	Yes	1	No (a)	0 (a)	Considered but not approved*	No	No	Contiguity of communities; commonality of personnel; administrative convenience.	Need for further post-merger experience.	Case-by-case
Michigan	NJ	NJ	NJ	NJ	NJ	NJ	NJ	NJ	NJ	NJ
Minnesota	NJ	NJ	NJ	NJ	NJ	NJ	NJ	NJ	NJ	NJ
Mississippi	Yes	1	No	NA	Not an issue	No	NA	NA	NA	Case-by-case
Missouri	Yes	2	Yes	2	NA	No	No	Cost savings	NA	Generally accepted
Montana (b)	No	0	NA	NA	NA	NA	NA	NA	NA	NA
Nebraska	No	0	NA	NA	NA	NA	NA	NA	NA	NA
Nevada	No	0	NA	NA	NA	NA	NA	NA	NA	NA
New Hampshire	Yes	4	No (a)	0 (a)	Considered but not approved*	No	NA	NA	NA	Case-by-case

NA = Not applicable; NR = Not reported; NJ = No jurisdiction

TABLE E1
Commission Policies on Single-Tariff Pricing for Water Utilities

State	Multi-System Utilities in the State (Q1)	Number of Multi-System Utilities (Q2)	Commission Approval of Single-Tariff Pricing (Q3)	Number of Utilities with Single Tariff Pricing (Q4)	Reasons for No Single-Tariff Pricing (Q5)	Has Single-Tariff Pricing Been Prohibited by Statute (Q6)	Monitor or Evaluate Single-Tariff Pricing (Q7)	Reason for Approval (Q8)	Reason for Rejection (Q9)	Commission Policy (Q10)
New Jersey	Yes	3	No	0	Considered but not approved*	No	NA	NA	NA	Case-by-case
New Mexico	No	0	NA	NA	NA	NA	NA	NA	NA	NA
New York	Yes	5	Yes	1	NA	No	No	Acceptable cost-of-service differentials	Cost-of-service differentials	Case-by-case
North Carolina	Yes	50	Yes	46	NA	No	No	More economical for utility and customers; less tracking required.	NA	Generally accepted
North Dakota	NJ	NJ	NJ	NJ	NJ	NJ	NJ	NJ	NJ	NJ
Ohio	Yes	3	Yes	2	NA	No	No	Company request, cost savings, customer benefits	NA	Case-by-case
Oklahoma	No	0	NA	NA	NA	NA	NA	NA	NA	NA
Oregon	Yes	1	Yes	1	NA	No	No	Public interest	NA	Generally accepted
Pennsylvania (e)	Yes	11	Yes	7	NA	No	No	Economies of scale; mitigate rate shock associated with improvements; lessen bookkeeping and reporting.	NA	Generally accepted; case-by-case
Rhode Island	No	0	NA	NA	NA	NA	NA	NA	NA	NA

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TABLE E1
Commission Policies on Single-Tariff Pricing for Water Utilities

State	Multi-System Utilities in the State (Q1)	Number of Multi-System Utilities (Q2)	Commission Approval of Single-Tariff Pricing (Q3)	Number of Utilities with Single Tariff Pricing (Q4)	Reasons for No Single-Tariff Pricing (Q5)	Has Single-Tariff Pricing Been Prohibited by Statute (Q6)	Monitor or Evaluate Single-Tariff Pricing (Q7)	Reason for Approval (Q8)	Reason for Rejection (Q9)	Commission Policy (Q10)
South Carolina	Yes	4	Yes	4	NA	No	No	Uniform cost allocation; lower billing costs; base charge covers most fixed costs.	NA	Generally accepted
South Dakota	NJ	NJ	NJ	NJ	NJ	NJ	NJ	NJ	NJ	NJ
Tennessee	No	0	NA	NA	NA	NA	NA	NA	NA	NA
Texas	Yes	200 to 300	Yes	Most	NA	No	No	Regionalization, lower administrative cost	NA	Generally accepted and preferred
Utah	No	NA	NA	NA	NA	NA	NA	NA	NA	NA
Vermont	Yes	1	Yes	1	NA	No	NA	Viability of systems; public interest	Staff rejected based on cross subsidies	Case-by-case
Virginia	Yes	4	Yes	4	NA	No	No	Spreads costs; separating small-system costs not always effective.	NA	Case-by-case
Washington	Yes	30	Yes	25	NA	No	No	Economies of scale for small systems	NA	Generally accepted

NA = Not applicable; NR = Not reported; NJ = No jurisdiction

TABLE E1
Commission Policies on Single-Tariff Pricing for Water Utilities

State	Multi-System Utilities in the State (Q1)	Number of Multi-System Utilities (Q2)	Commission Approval of Single-Tariff Pricing (Q3)	Number of Utilities with Single Tariff Pricing (Q4)	Reasons for No Single-Tariff Pricing (Q5)	Has Single-Tariff Pricing Been Prohibited by Statute (Q6)	Monitor or Evaluate Single-Tariff Pricing (Q7)	Reason for Approval (Q8)	Reason for Rejection (Q9)	Commission Policy (Q10)
West Virginia (f)	Yes	26	Yes	17	NA	No	Yes (g)	Promotes regionalization; ratepayer equity; ratemaking treatment similarity (f).	Cost-of-service principles; customer contribution inequities (f).	Case-by-case
Wisconsin (h)	Yes	1	No	0	Not an issue	No	NA	NA	NA	Never considered
Wyoming (b)	No	NA	NA	NA	NA	NA	NA	NA	NA	NA
D.C.	NJ	NJ	NJ	NJ	NJ	NJ	NJ	NJ	NJ	NJ

NA = Not applicable; NR = Not reported; NJ = No jurisdiction

TABLE E1
Commission Policies on Single-Tariff Pricing for Water Utilities

State	Multi-System Utilities in the State (Q1)	Number of Multi-System Utilities (Q2)	Commission Approval of Single-Tariff Pricing (Q3)	Number of Utilities with Single Tariff Pricing (Q4)	Reasons for No Single-Tariff Pricing (Q5)	Has Single-Tariff Pricing Been Prohibited by Statute (Q6)	Monitor or Evaluate Single-Tariff Pricing (Q7)	Reason for Approval (Q8)	Reason for Rejection (Q9)	Commission Policy (Q10)

(a) Partial rate consolidation has been approved; single-tariff pricing may be phased-in for some utilities (for regulatory simplification).
(b) Response by phone or derived from *1995 Inventory of Commission-Regulated Water Systems;* no multi-system water utilities.
(c) Proposed legislation would require physical interconnection of systems for single-tariff pricing.
(d) Farmers Home Administration debt requirements prohibit, but the issue did not come before the commission.
(e) May be more multi-system water utilities in the state.
(f) The commission regulates public service districts. These data reflect primarily the views of staff involved in regulating the districts.
(g) Reevaluation of rate cases where single-tariff pricing has been implemented (for public service districts).
(h) Response applies to regulated investor-owned utilities only. The Commission also regulates municipal water utilities and state law requires single-tariff pricing throughout municipalities.
* Pending or later cases were decided in favor of single-tariff pricing.

NA = Not applicable; NR = Not reported; NJ = No jurisdiction

TABLE E1
Commission Policies on Single-Tariff Pricing for Water Utilities

State	Multi-System Utilities in the State (Q1)	Number of Multi-System Utilities (Q2)	Commission Approval of Single-Tariff Pricing (Q3)	Number of Utilities with Single Tariff Pricing (Q4)	Reasons for No Single-Tariff Pricing (Q5)	Has Single-Tariff Pricing Been Prohibited by Statute (Q6)	Monitor or Evaluate Single-Tariff Pricing (Q7)	Reason for Approval (Q8)	Reason for Rejection (Q9)	Commission Policy (Q10)
Summary Data										
Yes	29	--	17	--	--	0	1	--	--	--
No	16	--	13	--	--	29	17	--	--	--
NA	0	--	15	--	33	16	27	27	38	16
NJ	6	--	6	--	6	6	6	6	6	6
Not an issue	--	--	--	--	7	--	--	--	--	--
Rejected	--	--	--	--	1	--	--	--	--	--
Considered but not approved	--	--	--	--	4	--	--	--	--	--
Generally accepted	--	--	--	--	--	--	--	--	--	8
Generally not accepted	--	--	--	--	--	--	--	--	--	0
Case-by-case	--	--	--	--	--	--	--	--	--	16
Never considered	--	--	--	--	--	--	--	--	--	5
Total	51	193	51	145	51	51	51			51

NA = Not applicable; NR = Not reported; NJ = No jurisdiction

TABLE E2
Multi-System Water Utilities and Single-Tariff Pricing

State	Name of Multi-System Water Utility (Q2)	Approximate Number of Systems (Q2)	Smallest System (N Connections) (Q2)	Largest System (N Connections) (Q2)	Single-Tariff Pricing Approved (Q4)	Approximate Date of Approval (Q4)	Notes
Alabama	NA	NA	NA	NA	NA	NA	
Alaska	NA	NA	NA	NA	NA	NA	
Arizona	Wilhoit Water Company	4	47	140	Yes	1993	
	Water Utility of Greater Tonopah, Inc.	7	4	67	Yes	1994	
	Arizona Water Company	20	176	8,120	No	NA	
	Big Park Water Company	3	10	1,400	No	NA	
	Citizens Utilities Company	5	416	20,000	No	NA	
	Congress Water Company	2	48	434	No	NA	
	Cordes Lakes Water Company	3	600	2,977	No	NA	
	Marana Water Service, Inc.	2	88	600	No	NA	
	United Utilities	12	22	1,229	No	NA	
Arkansas	NA	NA	NA	NA	NA	NA	
California	Cal Water Service Company	19	485	3,400	Partial	1990s	Phasing-in tariff, subject to cost analysis (a).
	Southern California Water Company	21	1,000	96,000	Partial	1990s	Phasing-in tariff, subject to cost analysis (a).
	California-American Water Company	5	7,000	40,000	No	NA	
Colorado	NA	NA	NA	NA	NA	NA	
Connecticut	Bridgeport Hydraulic Company	7	66	97,000	Yes	1986	
	Connecticut Water Company	16	42	27,000	Yes	1988	
	Connecticut-American Water Company	5	43	16,000	Partial	1985	Phasing-in rate.
	Crystal Water Company	3	480	2,204	Yes	1995	
	Eastern Connecticut Regional Water Co.	25	<5	249	Partial	1993	Six tariffs; phasing-in rate.
	Gallup Water Service Company	4	36	574	No	NA	

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TABLE E2
Multi-System Water Utilities and Single-Tariff Pricing

State	Name of Multi-System Water Utility (Q2)	Approximate Number of Systems (Q2)	Smallest System (N Connections) (Q2)	Largest System (N Connections) (Q2)	Single-Tariff Pricing Approved (Q4)	Approximate Date of Approval (Q4)	Notes
	Jewett City Water Company	4	20	1,331	Yes	1986	
	Olmstead Water Company	4	31	121	Yes	1995	
	Rural Water Company	20	2	244	Yes	1973	
	Topstone Hydraulic Company	3	41	237	Yes	1975	
	Tyler Lake Water Company	4	27	90	No	NA	
	United Water Connecticut Inc.	4	136	2,919	Yes	1993	
Delaware	NA	NA	NA	NA	NA	NA	Since the survey, a multi-system utility was created (acquisition); consolidated rates were approved.
Florida (b)	Arredondo Utility Company	2	NR	NR	Yes	NR (b)	
	Clay Utility Company	2	NR	NR	Yes	NR (b)	
	Consolidated Water Works, Inc.	2	NR	NR	Yes	NR (b)	
	Florida Cities Water Company (Lee County)	2	NR	NR	Yes	NR (b)	Single-tariff for water only.
	Gulf Utility Company	2	NR	NR	Yes	NR (b)	Interconnected water; noninterconnected wastewater.
	Heartland Utilities, Inc	2	NR	NR	Yes	NR (b)	
	Holiday Utility Company, Inc.	2	NR	NR	Yes	NR (b)	
	Jacksonville Suburban Utilities Corp., Inc.	21	NR	NR	Partial	NR (b)	Three tariffs.
	Lake Utility Services, Inc.	11	NR	NR	Partial	NR (b)	Two tariffs.
	Lenvil H. Dicks	4	NR	NR	Yes	NR (b)	
	Mad Hatter Utility, Inc.	3	NR	NR	Yes	NR (b)	Noninterconnected water; Interconnected wastewater.

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TABLE E2
Multi-System Water Utilities and Single-Tariff Pricing

State	Name of Multi-System Water Utility (Q2)	Approximate Number of Systems (Q2)	Smallest System (N Connections) (Q2)	Largest System (N Connections) (Q2)	Single-Tariff Pricing Approved (Q4)	Approximate Date of Approval (Q4)	Notes
	Marion Utilities, Inc.	23	NR	NR	Partial	NR (b)	Two tariffs.
	Neighborhood Utilities, Inc.	5	NR	NR	Yes	NR (b)	
	Ocala Oaks Utilities, Inc.	9	NR	NR	Yes	NR (b)	
	Pine Island Utility Corporation	2	NR	NR	Yes	NR (b)	
	Poinciana Utilities, Inc.	4	NR	NR	Yes	NR (b)	
	Rainbow Springs Utilities, Inc.	2	NR	NR	Yes	NR (b)	
	Seven Rivers Utilities, Inc.	3	NR	NR	Yes	NR (b)	
	Sunshine Utilities of Florida	20	NR	NR	Partial	NR (b)	Excludes 2 systems.
	Utilities, Inc.	16	NR	NR	Partial	NR (b)	Three tariffs.
Georgia	NJ	NJ	NJ	NJ	NJ	NJ	
Hawaii	NA	NA	NA	NA	NA	NA	
Idaho	Hayden Pines Water Company	10	12	646	Yes	1985	Not an issue when proposed.
Illinois	Citizens Utilities Company of Illinois	22	114	8,400	Partial	1965	Some exceptions based on source of supply differences.
	Illinois-American Water Company	5	1,700	65,200	Partial	1993	Phasing-in one system.
	Northern Illinois Water Corporation	4	4,000	40,200	No	NA	
	Consumers Illinois Water Company	8	200	19,200	No	NA	
Indiana	Indiana-American Water Company	16	NR	NR	No	NA	
	Hoosier Water	4	NR	NR	No	NA	
Iowa	Iowa-American Water Company	2	10,400	43,700	No	NA	
Kansas	NA	NA	NA	NA	NA	NA	
Kentucky	Southeastern W.D.	3	837	1,278	No	NA	
Louisiana	A.T.S.	NR	NR	NR	No	NA	
	Acadian Water & Sewer	NR	NR	NR	No	NA	

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TABLE E2
Multi-System Water Utilities and Single-Tariff Pricing

State	Name of Multi-System Water Utility (Q2)	Approximate Number of Systems (Q2)	Smallest System (N Connections) (Q2)	Largest System (N Connections) (Q2)	Single-Tariff Pricing Approved (Q4)	Approximate Date of Approval (Q4)	Notes
	Baton Rouge Water Company	NR	NR	NR	No	NA	
	Capital Utilities	NR	NR	NR	No	NA	
	Coast Water System	NR	NR	NR	No	NA	
	Hunstock Hills	NR	NR	NR	No	NA	
	Ascension Water Company	NR	NR	NR	No	NA	
	Louisiana Water Company	NR	NR	NR	No	NA	
	Parish Water Company	NR	NR	NR	No	NA	
	Utilities Data, Inc.	NR	NR	NR	No	NA	
Maine	Consumers Maine Water Company	7	408	7,192	No	NA	
Maryland	Utilities, Inc.	5	75	1,010	No	NA	
	Facilities Services, Inc.	7	31	130	No	NA	
Massachusetts	Massachusetts-American	3	2,400	11,000	Partial	1990	Two tariffs under a settlement agreement; a case is pending (a).*
Michigan	NJ	NJ	NJ	NJ	NJ	NJ	
Minnesota	NJ	NJ	NJ	NJ	NJ	NJ	
Mississippi	Johnson Utility Company	32	12 to 15	600 to 750	No	NA	
Missouri	Missouri-American Water	7	500	2,800	Yes	1995	
	KMB Utilities	6	200	600	Yes	1995	
Montana	NA	NA	NA	NA	NA	NA	
Nebraska	NA	NA	NA	NA	NA	NA	
Nevada	NA	NA	NA	NA	NA	NA	

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TABLE E2
Multi-System Water Utilities and Single-Tariff Pricing

State	Name of Multi-System Water Utility (Q2)	Approximate Number of Systems (Q2)	Smallest System (N Connections) (Q2)	Largest System (N Connections) (Q2)	Single-Tariff Pricing Approved (Q4)	Approximate Date of Approval (Q4)	Notes
New Hampshire	Consumers New Hampshire Water	24	40	5,000	Partial	NR	Three tariffs; may be moving toward single tariff (a).
	Pennichuck Water Works	12	35	19,000	No	NA	
	Lakes Regional Water Company	11	30	200	No	NA	
	Carleton Water Company	4	30	175	No	NA	
New Jersey	New Jersey-American	2	272	329,000	No	NA	A case is pending.*
	Elizabethtown Water Company	2	10,928	181,100	No	NA	
	Consumers New Jersey	7	422	28,652	No	NA	
New Mexico	NA	NA	NA	NA	NA	NA	
New York	Jamaica Water Supply	2	30,000	90,000	No	NA	Operated as one system until disconnected and extreme cost differentials became apparent
	South County Water	4	2	270	No	NA	Smallest serves two industrial customers.
	Rand Water	2	148	158	No	NA	
	Northwood Water	2	49	220	No	NA	
	Forest Park Water	6	30	60	Yes	1987	Commission imposed single-tariff pricing.
North Carolina	Alpha Utilities	11	18	121	Yes	1986	
	Bess Brothers	11	16	78	Yes	1971	
	Bogue Banks Water Company	3	80	3,830	Yes	1991	
	Bradshaw Water Company	5	10	41	Yes	1974	
	Brookwood Water Corporation	15	32	5,345	Yes	1974	

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TABLE E2
Multi-System Water Utilities and Single-Tariff Pricing

State	Name of Multi-System Water Utility (Q2)	Approximate Number of Systems (Q2)	Smallest System (N Connections) (Q2)	Largest System (N Connections) (Q2)	Single-Tariff Pricing Approved (Q4)	Approximate Date of Approval (Q4)	Notes
	Carolina Water Services of NC	72	13	2,790	Yes	1978	
	Clear Meadow Water	2	24	50	Yes	1981	
	Coastal Plains Utility Company	3	36	542	Yes	1967	
	Community Water Works	2	26	51	Yes	1975	
	Corriher Water Service	22	13	193	Yes	1968	
	Crabtree Water Systems	3	10	26	No	NA	
	Cross State Development Company	3	9	140	Yes	1974	
	CWS Systems	16	12	1,211	No	NA	
	D&W Water Systems	2	17	96	Yes	1987	
	Environmental Maintenance	3	20	132	No	NA	
	Fairways Utilities	3	9	296	Yes	1990	
	Fisher Utilities	18	13	184	Yes	1973	
	Fox Run Water Company	6	21	60	Yes	1989	
	Goss Utility Company	7	19	131	Yes	1976	
	Grandfather Golf and Country	2	45	156	Yes	1982	
	Heater Utilities	150	10	2,475	Yes	1972	
	Wayne M. Honeycutt	3	15	40	Yes	1978	
	Huffman Water Systems	10	11	83	Yes	1964	
	Hydraulics, Ltd.	85	4	191	Yes	1966	
	HydroLogic	4	15	64	No	NA	
	Kings Grant Water Company	7	96	850	Yes	1968	
	Knob Creek Utility	3	24	151	Yes	1984	
	Language Water Works Corp.	22	62	678	Yes	1969	
	Ira D. Lee & Assoc.	2	41	145	Yes	1986	

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TABLE E2
Multi-System Water Utilities and Single-Tariff Pricing

State	Name of Multi-System Water Utility (Q2)	Approximate Number of Systems (Q2)	Smallest System (N Connections) (Q2)	Largest System (N Connections) (Q2)	Single-Tariff Pricing Approved (Q4)	Approximate Date of Approval (Q4)	Notes
	Lewis Water Company	14	6	80	Yes	1980	
	Lincoln Water Works	2	21	122	Yes	1972	
	William K. Mauney	2	19	24	Yes	1976	
	Mercer Environmental	10	47	479	Yes	1965	
	Mid South Water Systems	201	7	429	Yes	1981	
	Giles E. Mullis	2	20	20	Yes	1983	
	Norwood Beach Water System	4	10	36	Yes	1995	
	Piedmont Construction & Water	47	7	147	Yes	1970	
	Prior Construction Company	2	11	184	Yes	1988	
	Quality Water Supplies	14	37	257	Yes	1967	
	Rayco Utilities	10	12	104	Yes	1987	
	Scientific Water & Sewage	5	106	537	Yes	1964	
	Scotland Water	4	39	91	Yes	1983	
	Scotsdale Water & Sewage	15	7	205	Yes	1990	
	Setzer Brothers Well Boring	3	30	72	Yes	1972	
	Spring Water Company	2	17	139	Yes	1977	
	Surry Water Company	30	8	206	Yes	1972	
	Turner Farms	4	20	127	Yes	1982	
	Water Resources	2	9	81	Yes	1993	
	West Wilson Water Company	6	15	74	Yes	1988	
	Woods Water Works	4	5	18	Yes	1981	
North Dakota	NJ	NJ	NJ	NJ	NJ	NJ	
Ohio	Ohio-American Water	8 or 9	300	15,000	Yes	1975 to 1983	

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TABLE E2
Multi-System Water Utilities and Single-Tariff Pricing

State	Name of Multi-System Water Utility (Q2)	Approximate Number of Systems (Q2)	Smallest System (N Connections) (Q2)	Largest System (N Connections) (Q2)	Single-Tariff Pricing Approved (Q4)	Approximate Date of Approval (Q4)	Notes
	Citizens Utilities	6	278	3,023	Yes	1975 to 1983	
	Consumers Ohio Water	4	7,516	25,254	No	NA	
Oklahoma	NA	NA	NA	NA	NA	NA	
Oregon	Avion Water Company, Inc.	4	52	5,750	Yes	Early 1970s	
Pennsylvania	Pennsyvania-American Water Company	27	NR	NR	Yes	1970s & 1980s	Interconnected systems (1970s); noncontiguous systems (1980s).
	United Water Pennsylvania, Inc.	22	NR	NR	Partial	1992	Excludes one system.
	Consumers Pennsylvania Water Company	10	NR	NR	Partial	NR	Three rate zones.
	Citizens Utilities Water Company of PA	20	NR	NR	Partial	NR	Five rate zones.
	National Utilities, Inc.	21	NR	NR	Partial	NR	Three rates and four systems with their own tariffs.
	Philadelphia Suburban Water Company	15	NR	NR	Partial	NR	Most acquisitions adopt the single tariff; excludes two systems.
	Newtown Artesian Water Company	2	NR	NR	Yes	1994	Merger of two companies.
	Redstone Water Compnay, Inc.	3	NR	NR	No	NA	Three rate zones and four systems with separate tariffs.
	Frank Sargent	4 to 5	NR	NR	No	NA	May be moving toward single tariff.
	Blaine Rhodes	5	NR	NR	No	NA	May be moving toward single tariff.

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TABLE E2
Multi-System Water Utilities and Single-Tariff Pricing

State	Name of Multi-System Water Utility (Q2)	Approximate Number of Systems (Q2)	Smallest System (N Connections) (Q2)	Largest System (N Connections) (Q2)	Single-Tariff Pricing Approved (Q4)	Approximate Date of Approval (Q4)	Notes
	Carl Kreisge	2 to 3	NR	NR	No	NA	May be moving toward single tariff.
Rhode Island	NA	NA	NA	NA	NA	NA	
South Carolina	Carolina Water Service Inc.	53	18	1,500	Yes	1987	
	Heater Utilities, Inc.	38	5	250	Yes	1990	
	Blue Ribbon H2O Corporation	34	5	300	Yes	1995	
	Upstate Heater Utilities Inc.	21	20	50	Yes	1994	
South Dakota	NJ	NJ	NJ	NJ	NJ	NJ	
Tennessee	NA	NA	NA	NA	NA	NA	
Texas	*Data not easily available*	*Not reported*					*Single-tariff pricing is preferred; a special procedure is used to implement the tariff in conjunction with acquisitions.*
Utah	NA	NA	NA	NA	NA	NA	
Vermont	Sunshine Water Company	4	12	40	Yes	1985	
Virginia	Alpha Water Corporation	28	10	200	Yes	1984	
	Heritage Homes of Virginia	8	11	29	Yes	1994	
	New River Water Company	14	7	126	Yes	1993	
	Pocahontas Water Works	2	60	68	Yes	1958	
Washington (c)	Alderton-McMillin Water Supply, Inc.	8	NR	NR	Yes	NR	
	Aquarius Utilities, Inc.	4	NR	NR	Yes	NR	
	Arcadia Utilities	11	NR	NR	No	NA	
	Bethel Water Company	3	NR	NR	Yes	NR	

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TABLE E2
Multi-System Water Utilities and Single-Tariff Pricing

State	Name of Multi-System Water Utility (Q2)	Approximate Number of Systems (Q2)	Smallest System (N Connections) (Q2)	Largest System (N Connections) (Q2)	Single-Tariff Pricing Approved (Q4)	Approximate Date of Approval (Q4)	Notes
	Evergreen Land & Water, Inc.	6	NR	NR	Yes	NR	System under receivership.
	Gamble Bay Water, Inc.	10	NR	NR	Yes	NR	
	H & R WaterWorks, Inc	8	NR	NR	Yes	NR	
	H2O Company, The	2	NR	NR	No	NA	
	Harbor Water Company, Inc.	79	NR	NR	Yes	NR	
	Iliad Water Services, Inc.	12	NR	NR	No	NA	
	Lara Lee, Inc.	6	NR	NR	Yes	NR	
	Mainland View Manor Maintenance Co.	5	NR	NR	Yes	NR	
	Marvin Road Water Company	4	NR	NR	Yes	NR	
	Mirrormont Srevices, Inc.	2	NR	NR	Yes	NR	
	Monterra, Inc. (Washington Water Systems)	2	NR	NR	Yes	NR	
	Northwest Water Systems, Inc.	13	NR	NR	Yes	NR	
	Pattison Water Comapny	4	NR	NR	Yes	NR	
	Point Fosdick Water Company, Inc.	4	NR	NR	Yes	NR	
	Rainier View Water Company, Inc.	4	NR	NR	Partial	NR	Excludes 1-2 systems.
	Sanderson & Associates, Inc.	13	NR	NR	Yes	NR	
	Satellite Water Systems	25	NR	NR	No	NA	
	S-K Pump & Drilling	39	NR	NR	Yes	NR	
	Soren Pedersen Water Company	2	NR	NR	No	NA	
	Sound Water Company, Inc.	4	NR	NR	Yes	NR	
	South Bainbridge Water System, Inc.	2	NR	NR	Yes	NR	
	South Sound Utility Company, Inc.	35	NR	NR	Yes	NR	
	Stroh Water Company	5	NR	NR	Partial	NR	Excludes 1-2 systems.
	Sunshine Acres Water System	4	NR	NR	Yes	NR	

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	Thomas Water Service, Inc.	2	NR	NR	Yes	NR	
	Washington Water Supply, Inc.	9	NR	NR	Yes	NR	
West Virginia (d)	West Virginia-American	13	571	68,636	Yes	1982	Formerly 12 to 14 districts.
	Arbuckle	2	NR	NR	Yes	Prior to 8/85	
	Central Hampshire	2	NR	NR	No	NA	
	Friendly	2	NR	NR	Yes	Prior to 4/88	
	Gilmer County	2	NR	NR	Yes	Prior to	
	Grant County	2	NR	NR	Yes	Prior to 9/83	
	Green Valley-Glenwood	2	NR	NR	Yes	Prior to 6/80	
	Hammond	2	NR	NR	Yes	1982	
	Hardy County	2	NR	NR	No	NA	
	Jefferson County	3	NR	NR	No	NA	
	Kopperston	2	NR	NR	Yes	1981	
	Logan County	5	NR	NR	Yes	1995	
	Mannington	2	NR	NR	Yes	Prior to 3/82	
	Mason County	3	NR	NR	No	NA	
	McDowell County	6	NR	NR	No	NA	
	Oakland	2	NR	NR	Yes	Prior to 5/84	
	Ohio County	3	NR	NR	Yes	Prior to 1/81	
	Pendleton County	4	NR	NR	No	NA	
	Preston County #1	2	NR	NR	Yes	Prior to 2/81	
	Preston County #2	2	NR	NR	Yes	Prior to	
	Raleigh County	3	NR	NR	No	NA	
	Red Sulphur	2	NR	NR	Yes	Prior to 8/83	

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Multi-System Water Utilities and Single-Tariff Pricing

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	South Putnam	2	NR	NR	No	NA	
	Van	2	NR	NR	No	NA	
	Washington Pike	2	NR	NR	Yes	Prior to 7/80	
	Wyoming-Glover	2	NR	NR	Yes	Prior to 2/85	
Wisconsin	Wisconsin Power & Light	2	2,661	13,752	No	NA	
	Several towns with two or three systems	*Not reported*					*Single-tariff pricing is required for municipal utilities.*
Wyoming	NA	NA	NA	NA	NA	NA	
D.C.	NJ	NJ	NJ	NJ	NJ	NJ	

(a) Single-tariff pricing has not been explictly approved, but some rate consolidation has occurred (three states; four systems).
(b) Only utilities with single-tariff pricing for all or some systems are reported. These rates were approved over time, dating back to at least the early 1980s. Data were not reported for all multi-system utilities in the state.
(c) Flat rates and metered rates may exist within the same tariff; mobile home parks and multi-dwelling units may have a separate rate within the same tariff.
(d) Only West-Virginia is investor-owned; the rest are public service districts. Only multi-system utilities are reported;interconnected systems and single-systems with multiple tariffs are not included.
* Pending cases were decided in favor of single-tariff pricing.

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Multi-System Water Utilities and Single-Tariff Pricing

State	Name of Multi-System Water Utility (Q2)	Approximate Number of Systems (Q2)	Smallest System (N Connections) (Q2)	Largest System (N Connections) (Q2)	Single-Tariff Pricing Approved (Q4)	Approximate Date of Approval (Q4)	Notes
Summary Data for All Utilities							
Yes		--	--	--	129	--	
Partial		--	--	--	20	--	
No		--	--	--	64	--	
Total		--	--	--	213	--	
Minimum		2	2	18	--	--	
Maximum		201	30,000	329,000	--	--	
Average		11	751	11,615	--	--	
Median		4	30	257	--	--	
Utilities reported		203	115	115	--	--	

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Multi-System Water Utilities and Single-Tariff Pricing

State	Name of Multi-System Water Utility (Q2)	Approximate Number of Systems (Q2)	Smallest System (N Connections) (Q2)	Largest System (N Connections) (Q2)	Single-Tariff Pricing Approved (Q4)	Approximate Date of Approval (Q4)	Notes
Summary Data for Single-Tariff Utilities							
Yes		--	--	--	129	--	
Partial		--	--	--	20	--	
No		--	--	--	0	--	
Total		--	--	--	149	--	
Minimum		2	2	18	--	1958	
Maximum		201	2,400	97,000	--	1995	
Average		13	122	5,651	--	1982	
Median		5	20	193	--	1984	
Utilities reported		149	81	81	--	80	
Summary Data for Non-Single-Tariff Utilities							
Yes		--	--	--	0	--	
Partial		--	--	--	0	--	
No		--	--	--	64	--	
Total		--	--	--	0	--	
Minimum		2	2	26	--	--	
Maximum		32	30,000	329,000	--	--	
Average		6	2,251	25,824	--	--	
Median		4	82	1,254	--	--	
Utilities reported		54	34	34	--	--	

Note:
For reponses reported as a range of values, averages were used (for example, "8 to 9" was averaged to "8.5").
For the response "< 5" a value of 4.5 was used.

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TABLE E3
Arguments in Favor of Single-Tariff Pricing (a)

State	Regionalization Incentives	Mitigates Rate Shock	Universal Service	Regional Ratepayer Equity	Service Affordability	Small-System Viability	Compliance with Standards	Similar Ratemaking to Other Utilities	Lowers Admin. Costs to Utility	Lowers Admin. Costs to Commission	Regional Economic Development	Encourages Private Involvement	Encourages Investment	Interconnection Not Required	Overall Benefits Outweigh Costs	Other	Number of "Yes" Responses
Alabama	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Alaska	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Arizona	Yes	Yes	No	No	No	Yes	No	Yes	Yes	Yes	No	No	No	Yes	Yes	No	8
Arkansas	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
California	No	Yes	Yes	No	Yes	Yes	No	No	No	No	No	No	No	No	No	No	4
Colorado	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Connecticut	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	No	Yes	Yes	Yes	Yes	No	14
Delaware	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Florida	Yes	Yes	Yes	No	Yes	Yes	Yes	Yes	Yes	Yes	No	Yes	Yes	Yes	Yes	No	13
Georgia	NJ	NJ	NJ	NJ	NJ	NJ	NJ	NJ	NJ	NJ	NJ	NJ	NJ	NJ	NJ	NJ	NJ
Hawaii	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Idaho	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI
Illinois	Yes	Yes	No	No	No	No	Yes	No	Yes	No	No	No	No	Yes	Yes	No	6
Indiana	No	Yes	No	No	No	No	No	Yes	No	No	No	No	No	No	No	No	2
Iowa	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI
Kansas	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Kentucky	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI
Louisiana	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI
Maine	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI
Maryland	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI
Massachusetts	No	No	No	Yes	No	No	No	No	Yes	No	No	No	No	Yes	No	No	3
Michigan	NJ	NJ	NJ	NJ	NJ	NJ	NJ	NJ	NJ	NJ	NJ	NJ	NJ	NJ	NJ	NJ	NJ
Minnesota	NJ	NJ	NJ	NJ	NJ	NJ	NJ	NJ	NJ	NJ	NJ	NJ	NJ	NJ	NJ	NJ	NJ
Mississippi	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI
Missouri	Yes	Yes	Yes	No	No	No	No	No	Yes	Yes	No	No	Yes	Yes	No	No	7
Montana	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA

NA = Not applicable; NR = Not reported; NJ = No jurisdiction

TABLE E3
Arguments in Favor of Single-Tariff Pricing (a)

State	Regionalization Incentives	Mitigates Rate Shock	Universal Service	Regional Ratepayer Equity	Service Affordability	Small-System Viability	Compliance with Standards	Similar Ratemaking to Other Utilities	Lowers Admin. Costs to Utility	Lowers Admin. Costs to Commission	Regional Economic Development	Encourages Private Involvement	Encourages Investment	Interconnection Not Required	Overall Benefits Outweigh Costs	Other	Number of "Yes" Responses
Nebraska	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Nevada	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
New Hampshire	Yes	Yes	No	No	Yes	Yes	No	No	No	No	No	No	No	No	No	No	4
New Jersey	Yes	Yes	No	No	No	Yes	Yes	Yes	Yes	No	Yes	No	No	Yes	No	No	8
New Mexico	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
New York	No	No	No	No	No	No	No	No	Yes	No	No	No	No	Yes	No	Yes (b)	3
North Carolina	Yes	Yes	No	No	Yes	Yes	Yes	No	Yes	No	Yes	No	No	Yes	Yes	No	9
North Dakota	NJ	NJ	NJ	NJ	NJ	NJ	NJ	NJ	NJ	NJ	NJ	NJ	NJ	NJ	NJ	NJ	NJ
Ohio	Yes	Yes	No	No	Yes	Yes	No	No	Yes	No	No	No	No	Yes	No	No	6
Oklahoma	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Oregon	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	No	No	Yes	No	Yes	No	12
Pennsylvania	Yes	Yes	Yes	Yes	Yes	Yes	Yes	No	Yes	Yes	No	No	No	Yes	Yes	No	11
Rhode Island	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
South Carolina	No	Yes	Yes	No	No	No	No	Yes	Yes	No	No	No	No	No	No	No	4
South Dakota	NJ	NJ	NJ	NJ	NJ	NJ	NJ	NJ	NJ	NJ	NJ	NJ	NJ	NJ	NJ	NJ	NJ
Tennessee	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Texas	Yes	Yes	No	No	Yes	Yes	Yes	No	Yes	No	No	No	No	No	No	No	6
Utah	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Vermont	No	No	No	No	No	Yes	No	No	No	No	No	No	No	No	No	Yes (c)	1
Virginia	Yes	Yes	No	No	Yes	No	No	Yes	Yes	Yes	No	No	No	No	No	No	6
Washington	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	No	Yes	Yes	Yes	No	14
West Virginia	Yes	No	No	Yes	Yes	No	No	Yes	No	No	No	No	No	Yes	Yes	No	6
Wisconsin	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI
Wyoming	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
D.C.	NJ	NJ	NJ	NJ	NJ	NJ	NJ	NJ	NJ	NJ	NJ	NJ	NJ	NJ	NJ	NJ	NJ

NA = Not applicable; NR = Not reported; NJ = No jurisdiction

TABLE E3

Arguments in Favor of Single-Tariff Pricing (a)

State	Regionalization Incentives	Mitigates Rate Shock	Universal Service	Regional Ratepayer Equity	Service Affordability	Small-System Viability	Compliance with Standards	Similar Ratemaking to Other Utilities	Lowers Admin. Costs to Utility	Lowers Admin. Costs to Commission	Regional Economic Development	Encourages Private Involvement	Encourages Investment	Interconnection Not Required	Overall Benefits Outweigh Costs	Other	Number of "Yes" Responses
Summary Data																	
Yes	15	17	8	6	12	13	9	10	18	8	3	2	5	13	9	2	--
No	6	4	13	15	9	8	12	11	5	13	18	19	16	8	12	19	--
Not an issue	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	--
Not applciable	16	16	16	16	16	16	16	16	16	16	16	16	16	16	16	16	--
No jurisidction	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	--
Total	51	51	51	51	51	51	51	51	51	51	51	51	51	51	51	51	--

(a) These findings reflect staff views about the arguments affecting commission deliberations or policies.
(b) Can be consistent with cost-of-service principles.
(c) The board determined that single-tariff pricing was in the public interest and approved it over the objections of staff concerns about subsidies.

NA = Not applicable; NR = Not reported; NJ = No jurisdiction

TABLE E4
Arguments Against Single-Tariff Pricing (a)

State	Conflict with Cost-of-Service	Undermines Economic Efficiency	Subsidies to High-Cost Customers	Distorts Price Signals	Discourages Efficient Water Use	Encourages Growth in High-Cost Areas	Encourages Overinvestment	Fails to Account for Contributions	Unnecessary Incentives	Inappropriate Without Interconnection	Not Acceptable to All Customers	Not Acceptable to Agencies	Not Justified in a Specific Case	Insufficient Precedents	Overall Costs Outweigh Benefits	Other	Number of "Yes" Responses
Alabama	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Alaska	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Arizona	Yes	No	Yes	No	No	Yes	No	No	No	Yes	Yes	No	No	No	No	No	5
Arkansas	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
California	Yes	Yes	Yes	Yes	Yes	Yes	No	No	No	No	No	Yes	No	No	No	No	7
Colorado	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Connecticut	Yes	No	Yes	No	No	Yes	No	No	No	Yes	Yes	No	No	Yes	No	No	6
Delaware	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Florida	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	No	15
Georgia	NJ	NJ	NJ	NJ	NJ	NJ	NJ	NJ	NJ	NJ	NJ	NJ	NJ	NJ	NJ	NJ	NJ
Hawaii	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Idaho	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI
Illinois	Yes	No	No	No	No	No	No	No	No	No	No	No	Yes	No	Yes	No	3
Indiana	Yes	No	No	No	No	No	No	Yes	No	No	Yes	No	Yes	No	No	No	4
Iowa	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI
Kansas	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Kentucky	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI
Louisiana	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI
Maine	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI
Maryland	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI
Massachusetts	Yes	No	No	No	No	No	No	No	No	Yes	No	No	Yes	No	No	No	3
Michigan	NJ	NJ	NJ	NJ	NJ	NJ	NJ	NJ	NJ	NJ	NJ	NJ	NJ	NJ	NJ	NJ	NJ
Minnesota	NJ	NJ	NJ	NJ	NJ	NJ	NJ	NJ	NJ	NJ	NJ	NJ	NJ	NJ	NJ	NJ	NJ
Mississippi	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI
Missouri	Yes	No	Yes	Yes	No	No	No	Yes	No	Yes	No	No	No	No	No	No	5
Montana	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA

NA = Not applicable; NR = Not reported; NJ = No jurisdiction

TABLE E4
Arguments Against Single-Tariff Pricing (a)

State	Conflict with Cost-of-Service	Undermines Economic Efficiency	Subsidies to High-Cost Customers	Distorts Price Signals	Discourages Efficient Water Use	Encourages Growth in High-Cost Areas	Encourages Overinvestment	Fails to Account for Contributions	Unnecessary Incentives	Inappropriate Without Interconnection	Not Acceptable to All Customers	Not Acceptable to Agencies	Not Justified in a Specific Case	Insufficient Precedents	Overall Costs Outweigh Benefits	Other	Number of "Yes" Responses
Nebraska	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Nevada	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
New Hampshire	Yes	No	Yes	No	No	No	No	Yes	No	Yes	Yes	No	No	No	No	No	5
New Jersey	No	No	No	No	No	No	No	No	No	No	No	No	No	No	No	No	0
New Mexico	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
New York	Yes	Yes	Yes	Yes	Yes	No	No	Yes	No	Yes	Yes	No	Yes	No	No	No	9
North Carolina	Yes	No	Yes	Yes	No	No	No	No	No	No	No	No	No	No	No	No	3
North Dakota	NJ	NJ	NJ	NJ	NJ	NJ	NJ	NJ	NJ	NJ	NJ	NJ	NJ	NJ	NJ	NJ	NJ
Ohio	No	No	No	No	No	No	No	No	No	No	No	No	No	No	No	No	0
Oklahoma	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Oregon	No	No	No	No	No	No	No	No	No	No	No	No	No	No	No	No	0
Pennsylvania	Yes	No	Yes	No	No	No	No	No	No	No	Yes	No	No	No	No	No	3
Rhode Island	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
South Carolina	No	No	No	No	No	No	No	No	No	No	No	No	No	No	No	No	0
South Dakota	NJ	NJ	NJ	NJ	NJ	NJ	NJ	NJ	NJ	NJ	NJ	NJ	NJ	NJ	NJ	NJ	NJ
Tennessee	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Texas	No	No	Yes	No	No	No	No	No	No	No	Yes	No	No	No	No	No	2
Utah	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Vermont	No	No	Yes	Yes	No	No	No	No	No	Yes	Yes	No	No	No	No	No	4
Virginia	Yes	No	Yes	No	No	No	No	No	Yes	No	No	No	No	No	No	No	3
Washington	No	No	No	Yes	Yes	No	No	No	No	No	Yes	No	No	No	No	No	3
West Virginia	Yes	No	No	No	No	No	No	Yes	No	No	No	No	Yes	No	No	No	3
Wisconsin	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI
Wyoming	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
D.C.	NJ	NJ	NJ	NJ	NJ	NJ	NJ	NJ	NJ	NJ	NJ	NJ	NJ	NJ	NJ	NJ	NJ

NA = Not applicable; NR = Not reported; NJ = No jurisdiction

TABLE E4
Arguments Against Single-Tariff Pricing (a)

State	Conflict with Cost-of-Service	Undermines Economic Efficiency	Subsidies to High-Cost Customers	Distorts Price Signals	Discourages Efficient Water Use	Encourages Growth in High-Cost Areas	Encourages Overinvestment	Fails to Account for Contributions	Unnecessary Incentives	Inappropriate Without Interconnection	Not Acceptable to All Customers	Not Acceptable to Agencies	Not Justified in a Specific Case	Insufficient Precedents	Overall Costs Outweigh Benefits	Other	Number of "Yes" Responses
Summary Data																	
Yes	14	3	12	7	4	4	1	6	2	8	10	2	6	2	2	0	--
No	7	18	9	14	17	17	20	15	19	13	11	19	15	19	19	21	--
Not an issue	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	--
Not applciable	16	16	16	16	16	16	16	16	16	16	16	16	16	16	16	16	--
No jurisidction	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	--
Total	51	51	51	51	51	51	51	51	51	51	51	51	51	51	51	51	--

(a) These findings reflect staff views about the arguments affecting commission deliberations or policies.

NA = Not applicable; NR = Not reported; NJ = No jurisdiction

Exhibit B

DR 97-058

pennichuck water works, inc.

Petition for Permanent Rate Increase

Order Approving Settlement Agreement and Petition for Rate Consolidation

O R D E R N O. 22,883

March 25, 1998

APPEARANCES: Gallagher, Callahan and Gartrell by David A. Garfunkel, Esq. for Pennichuck Water Works, Inc.; Ransmeier and Spellman by Dom S. D'Ambruoso, Esq. for Anheuser-Busch, Inc.; Amy L. Ignatius, Esq. for the Staff of the New Hampshire Public Utilities Commission.

I. PROCEDURAL HISTORY

Pennichuck Water Works, Inc. (Pennichuck) serves the southern New Hampshire area, operating a core system that serves Nashua and portions of Amherst, Merrimack, Milford, Hollis and Bedford, as well as 10 independent community systems serving portions of Epping, Derry, Bedford, Milford and Plaistow. On May 28, 1997, Pennichuck filed with the New Hampshire Public Utilities Commission (Commission) a petition for an increase in its rates and to consolidate the rates of the core and community systems, even though the systems are not physically interconnected.

Anheuser-Busch, Inc. (AB), Pennichuck's largest customer, sought and was granted intervention.

Pennichuck requested an overall 26.98% increase in permanent rates, on a consolidated system basis. In its testimony filed July 10, 1997, Pennichuck also requested a temporary increase in revenues overall, to be derived solely from core customers, which the Commission granted by Order No. 22,683 (August 18, 1997). The 5.12% increase in revenues, on a temporary basis, excluded the community systems and all commercial and municipal fire protection customers. This resulted in a 7.8% increase in rates to those core customers affected.

Subsequent to the temporary rate order, on November 6, 1997, AB filed testimony of its expert witness, Ernest Harwig, opposing rate consolidation. Also on that date, Staff filed testimony of Douglas W. Brogan, James L. Lenihan and Mark A. Naylor. Staff witness Tracy B. Guyette filed testimony on November 13, 1997.

On December 5, 1997, AB moved for permission to file rebuttal testimony, which Staff opposed. The Commission granted the request and on December 23, 1997, AB filed rebuttal testimony of Mr. Harwig. Also on that date, Pennichuck filed rebuttal testimony of Stephen J. Densberger and its consultant Janice A. Beecher. On January 6, 1998, AB moved to strike Dr. Beecher's testimony, which Pennichuck opposed. The Commission denied the motion to strike. On January 22, 1998, AB filed surrebuttal testimony of Mr. Harwig and on the following date, Staff filed surrebuttal testimony of Mr. Brogan.

On January 30, 1998, Pennichuck and Staff submitted a Settlement Agreement on all issues except rate consolidation. The Commission took evidence on the Settlement Agreement and the contested issue of rate consolidation on February 3 through 5, 1998.

II. SETTLEMENT AGREEMENT

The Settlement Agreement addressed all issues except rate consolidation. Revenue requirements were calculated for the systems on a stand alone basis, with Pennichuck's explicit statement that it did not agree to stand alone calculations. AB did not participate in the settlement negotiations on any issue other than rate consolidation and took no position on the Settlement Agreement.

Revenue deficiency for the core was set at $511,230 and at levels for the community systems ranging from ($7,158) to $41,791, based on stipulated rate base and net operating income for the core and community systems (found as attachments to the Settlement Agreement). Pennichuck and Staff agreed on an allowed return on common equity of 10.35%, a cost of long term debt of 7.41%, cost of short term debt of 7.43%, and a treatment of a parent company infusion as short term debt, producing an overall cost of capital of 8.34%.

The proposed revenue increase would be collected on all but private and municipal fire protection customers, based on a recent review of Pennichuck's 1992 cost of service study that indicated an over-collection of fire protection charges. Pennichuck and Staff recommend, therefore, that fire protection rates remain at their present levels.

Pennichuck and Staff also agreed to a step adjustment to occur simultaneously with the increase in permanent rates, to reflect plant additions completed on or before December 31, 1997 that were made in conformance with the Safe Drinking Water Act or mandated by the City of Nashua and/or the State for highway work, or any projects in which $50,000 or more was expended on non-revenue producing items. In addition, the step adjustment would reflect one year's accumulated depreciation and related deferred taxes and one year's depreciation expense and property taxes in connection with the approved plant additions. Again, private and municipal fire protection customers would be excluded from the increase.

The proposed permanent rate increase, excluding the step adjustment, is the same as that approved by the Commission for temporary rates; therefore there would be no recoupment for the difference between temporary and permanent rates. Rate case expenses, however, would be surcharged over a 12 month period. The actual amount of rate case expenses will be determined after review of a compliance filing Pennichuck is to submit upon issuance of this order.

Finally, regarding depreciation, Pennichuck and Staff agree to use the "whole life" rather than Pennichuck's proposed "average remaining life" methodology, for an annual depreciation expense of $1,272,791, which results in an annual composite depreciation rate of 2.44%.

III. POSITIONS OF THE PARTIES AND STAFF ON RATE CONSOLIDATION

A. Pennichuck and Engineering Staff

Pennichuck sought to consolidate all of the community systems into one set of rates, even though the systems are not physically interconnected. Applying the settlement figures, including the step adjustment, the consolidated rate would be approximately $253 per year for the average residential user. By contrast, again applying the settlement revenue requirements but keeping the rates on a stand alone basis would result in an average residential core rate of $245 per year; the community systems' rates would range from $291 to $1,166 per year. Single family residential customers in the core system, therefore, would pay an additional $8 per year under the rate consolidation proposal, while most of the community system customers would see a decrease in their bills.

In support of the rate consolidation proposal, Pennichuck argued that the community systems would benefit from Pennichuck's ability to upgrade or repair facilities as necessary to meet environmental mandates without fear of overwhelming community systems' customers. Because the community systems are small (ranging from 29 to 458 customers), any significant capital improvement can result in a significant increase in rates.

Pennichuck anticipates reduction in regulatory and accounting expense if the systems are consolidated, and predicts that with rate consolidation it would be better able to consider purchase of small systems in the future, as the Commission has encouraged.

Pennichuck's consultant, Janice A. Beecher, testified that commissions have ruled both ways on rate consolidation proposals, and found merit in Pennichuck's request. In her view, Pennichuck's community systems are simply too small to be viable on a stand alone basis.

Staff engineer Douglas W. Brogan testified in support of Pennichuck's proposal, concluding that the viability of the systems and their ability to come into and remain in conformance with environmental standards would be greatly enhanced by consolidation with the core. He analyzed characteristics of the systems and asserted that they bore strong similarities to the core, further bolstering the arguments for rate consolidation. He distinguished this proposal from the Consumers New Hampshire water system in which unhappiness with rate consolidation was the source of much of the impetus for the town of Hudson purchase of Consumers New Hampshire's assets. According to Brogan, the Consumers New Hampshire systems had different characteristics than the Pennichuck systems. Further, Consumers New Hampshire's service and water quality and utility management were not on a par with that of Pennichuck.

Brogan stated he would not support rate consolidation in all cases, but that the particular circumstances in this case justified approval of the request. He felt the approximately $8 per year increase to single family residential core customers under rate consolidation was justified by the benefits that accrued to all Pennichuck ratepayers, and the overall rate of $253 per year was just and reasonable.

B. Anheuser-Busch, Economics and Finance Staff

AB, Pennichuck's largest industrial customer, opposed the rate consolidation proposal. AB's consultant Ernest Harwig argued that consolidation of rates, also known as single tariff pricing (STP), was unwise regulatory policy because it breaks the connection between rates and costs. It changes the economics for water conservation, especially in the community systems, because the rate decreases produced by STP weaken the incentive to conserve. Mr. Harwig indicated that the subsidy to be paid by AB would be $20,000 annually, and he rejected the notion that Pennichuck is one large consolidated operation because of the differences between demand characteristics of the core system and those of the community systems.

Applying the Settlement revenues and assuming rate consolidation is approved, AB's yearly charge (pursuant to a special contract) would increase by $99,990, from $481,417 to $581,407. Without rate consolidation, the increase would be approximately $20,000 less, as testified by Mr. Harwig.

The Commission's Acting Finance Director, Mark A. Naylor, testified in opposition to the proposal, arguing among other things that by blending the rates there would be no tracking of the specific costs of each system. In response, Pennichuck stated that while it would not keep full books on each system, it would record and make available all costs on a system by system basis. Naylor questioned Pennichuck's anticipated savings in regulatory and accounting costs for two reasons: 1) it could not quantify those savings and did not provide for any savings in this rate filing, and 2) its response noted above that it would track the costs of each system and this would appear to erode the anticipated savings. Mr. Naylor also testified that, unlike other regulated utilities which are moving toward deregulation as a result of alternative choices in "supplies" of product, water is unique in not enjoying such supply alternatives, and price signals to customers become even more critical in properly managing water resources.

Staff Economist James L. Lenihan also opposed consolidation on the ground that the systems are not physically interconnected and, therefore, should not have rates set on a consolidated basis. According to Lenihan, the community systems should remain on a stand alone basis in order to reflect true costs of each system. The "subsidy" by core customers, although small, would be inappropriate.

IV. COMMISSION ANALYSIS

We have reviewed the Settlement Agreement and testimony and conclude that the Settlement Agreement is a sound resolution of the rate case issues. We recognize that Pennichuck has faced extraordinary costs due to highway and other construction work mandated by the State and the City of Nashua. These capital intensive, non-revenue producing projects have put a strain on the company, in part prompting us to approve a 5.12% increase in revenues on a temporary basis in August, 1997. In addition, we recognized that the mandates of the Safe Drinking Water Act or other environmental standards have required significant investments in both the core and community systems.

Because of the magnitude of some of these investments, we will accept the recommendation that we approve a simultaneous step adjustment on the effective date of the permanent rate increase, for certain specified improvements. To do otherwise would force Pennichuck to file another rate case relatively soon, which ultimately is a cost borne by ratepayers. For projects completed in 1997 that meet the threshold criteria, we will approve the step adjustment.

While New Hampshire law is replete with references to the appropriate standard for establishing a utility's rate base and rate of return, there appears to be no specific guidance on the point of rate consolidation or single tariff pricing. Thus, in the absence of any legal impediment to utilizing single tariff pricing, our decision essentially becomes one of policy that is bound only by our statutory constraints that rates be just and reasonable and that we act in the public interest. See RSAs 374:2 and 378:28.

Opponents of rate consolidation in this case argue that we should adhere to our traditional ratemaking policy of cost causation. We find their position unpersuasive in this case for two reasons. First, traditional cost of service regulation already includes some measure of rate averaging in that customers are not charged the true costs of serving them on an individual basis. Second, and perhaps more important, stand alone rates in this case produce results for some customers that are well beyond the zone of "just and reasonable". One needs only to look at the stand alone rates that would result from the Settlement Agreement to see just how extreme the results are when significant investments are required in a very small system. Most of the community systems are simply too small to absorb the magnitude of investments mandated by environmental enactments. However, without these investments, it is clear that the small community systems would have been unable to provide safe and adequate water service to their customers.

We do not believe it would be in the public interest to impose annual rates in the range of $800 to $1200, as would be the case here, when a reasonable alternative is available. By consolidating the community systems with the core system for ratemaking purposes, all customers would face a uniform tariff which, for the average residential customer, would be approximately $253 per year. The rates for the average residential customer in the core system would increase less than $1.00 per month, for a total of $8 per year, under the rate consolidation proposal which, in light of the alternative, we find to be acceptable. We consider a single tariff rate of approximately $253 per year for the core residential customer to be just and reasonable. A consolidated rate will ensure affordability and the continued viability of many of Pennichuck's community systems. It will also enable Pennichuck to operate in a more administratively efficient manner by eliminating separate general ledgers for each system, thereby reducing administrative costs.

Although we are approving the rate consolidation proposal, we share the concerns of Mr. Naylor that there is a risk that there will be inadequate information tracked on a community system basis and, as a result, a troubled system, or over-investment, could escape the scrutiny of management and regulators. We accept the commitment of Pennichuck to record costs on a system specific basis.

We find that all investments that are the subject of this proceeding have been prudently incurred and that the facilities are used and useful in the provision of public utility service.

The result of the rate consolidation proposal and the Settlement Agreement, including the step adjustment, will be an additional increase of 12.97% for customers (excluding fire protection customers) for bills rendered on or after April 1, 1998. Together with the temporary rate increase approved in August, 1997 (which mirrors the permanent rate increase approved by this order) Pennichuck will see a total 16.77% increase in revenues and general metered core customers will see a total 20.77% increase in rates over those in effect prior to the filing of the rate case in the summer of 1997. The billing impact for core customers as of April 1, 1998, however, will be 12.97%, given that 7.8% of the increase has already been included in rates as of the temporary rate order last August. As of April 1, 1998, community system customers will see increases or decreases in their bills according to whether their community system rate had been above or below the consolidated rate of approximately $253 per year.

Finally, we emphasize that by approving rate consolidation in this case, we are not accepting it as a generic policy for all water companies.

Based upon the foregoing, it is hereby

ORDERED, that the Settlement Agreement reached between Pennichuck and Staff is APPROVED; and it is

FURTHER ORDERED, that Pennichuck's rate consolidation proposal is APPROVED; and it is

FURTHER ORDERED, that Pennichuck shall file its final rate case expense request within five days for Staff review and Commission consideration; and it is

FURTHER ORDERED, that Pennichuck shall submit a compliance tariff within five days in conformance of this order.

By order of the Public Utilities Commission of New Hampshire this twenty-fifth day of March, 1998.

Douglas L. Patch Chairman	Bruce B. Ellsworth Commissioner	Susan S. Geiger Commissioner

Attested by:

Thomas B. Getz
Executive Director and Secretary

Exhibit C

Company	Current Rates	"A" Liberty Water Stand Alone Rates	"B" Liberty Water Consolidated Rates	"C" RUCO Stand Alone Rates	"D" RUCO Consolidated Rates	"E" **RUCO Modified Consolidated Rates**	**Net Effect of "E"**
5/8" x 3/4" Metered # of Customers / Avg. gallons							
Bella Vista *7,377 / 6,612*	**$22.90**	**$30.40** $7.50 / 32.75% *Revenue Increase $958,701 / 27.19%*	**$33.59** $10.69 / 46.68%	**$26.51** $3.61 / 15.76% *Revenue Increase $400,768 / 11.37%*	**$29.01** $6.11 / 26.69%	**$27.33** $4.43 / 19.34% ($1.68 credit)	Avg. BVWC customer pays $0.82 extra for consolidated rates.
Northern Sunrise *348 / 5,755*	**$43.08**	**$105.12** $62.04 / 144.01% *Revenue Increase $256,044 / 133.38%*	**$31.05** -$12.03 / -27.92%	**$84.14** $41.06 / 95.31% *Revenue Increase $167,284 / 87.14%*	**$26.81** -$16.27 / -37.77%	**43.08** $0.00 / 0.0% ($16.27 surcharge)	Avg. NSWC customer sees no difference in bill for consolidated rates.
Southern Sunrise *786 / 5,581*	**$42.60**	**$75.15** $32.55 / 76.41% *Revenue Increase $309,090 / 69.59%*	**$30.53** -$12.07 / -28.33%	**$37.26** -$5.34 / -12.54% *Revenue Decrease -$65,111 / -14.66%*	**$26.36** -$16.24 / -38.12%	**$37.26** -5.33 / -12.52% ($10.90 surcharge)	Avg. SSWC customer sees a $5.33 reduction in bill for consolidated rates.
Revenue Increase	$0	$1,523,835	$1,510,349	$502,941	$757,478	$757,479	
Gross Revenue	$4,162,136	$5,685,971	$5,672,485	$4,665,077	$4,919,615	$4,919,615	